NE Drought Conditions
CARC Update: March 2007

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School of Natural Resources

University of Nebraska Lincoln

National Drought Mitigation Center

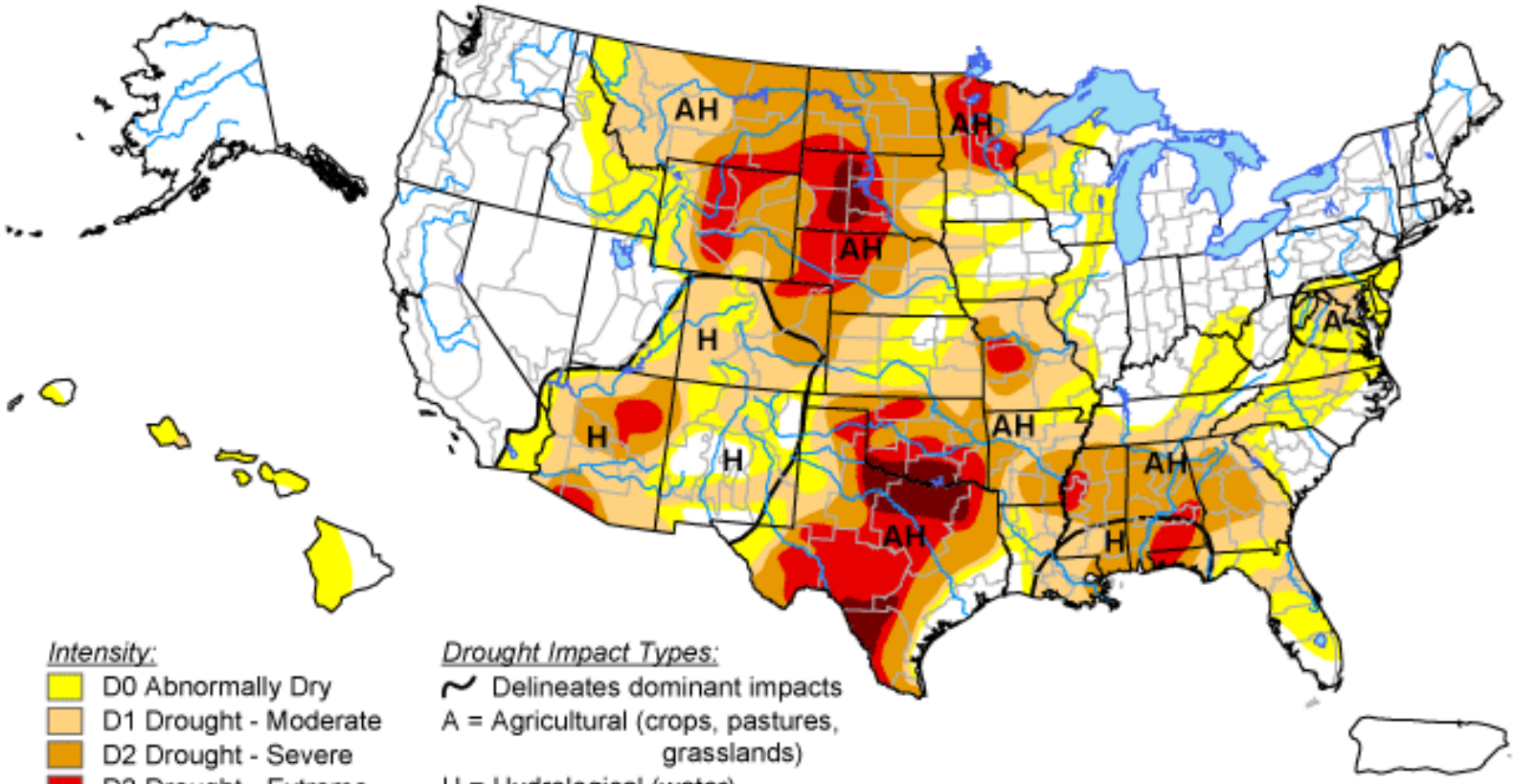
Current National and Regional Conditions…

University of Nebraska Lincoln

National Drought Mitigation Center

U.S. Drought Monitor

August 22, 2006
Valid 8 a.m. EDT



Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:
- ~ Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

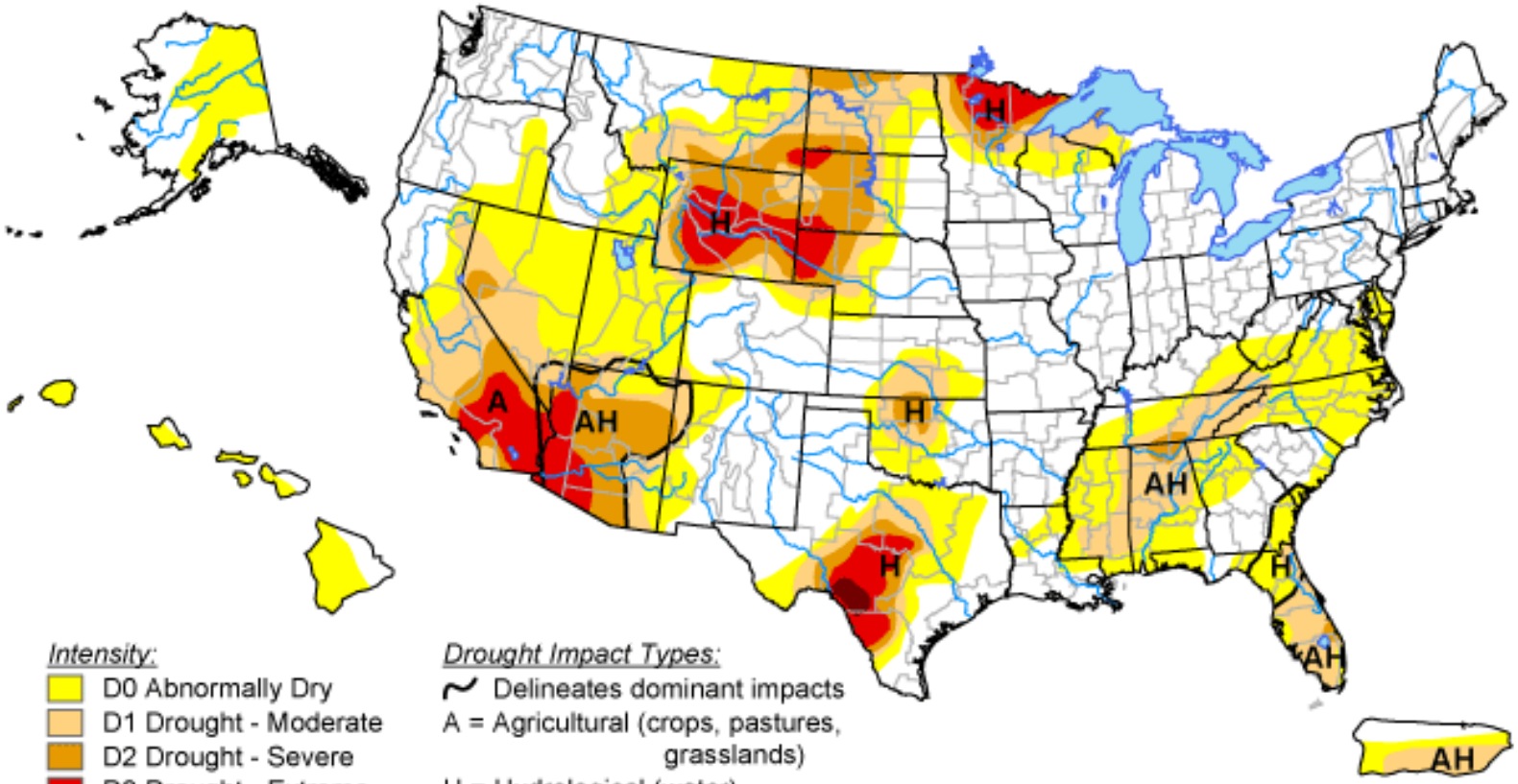
USDA National Drought Mitigation Center

Released Thursday, August 24, 2006

Author: Brian Fuchs, National Drought Mitigation Center

U.S. Drought Monitor

March 13, 2007
Valid 8 a.m. EDT



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http://drought.unl.edu/dm

USDA National Drought Mitigation Center

Released Thursday, March 15, 2007
Author: Richard Heim, NOAA/NESDIS/NCDC

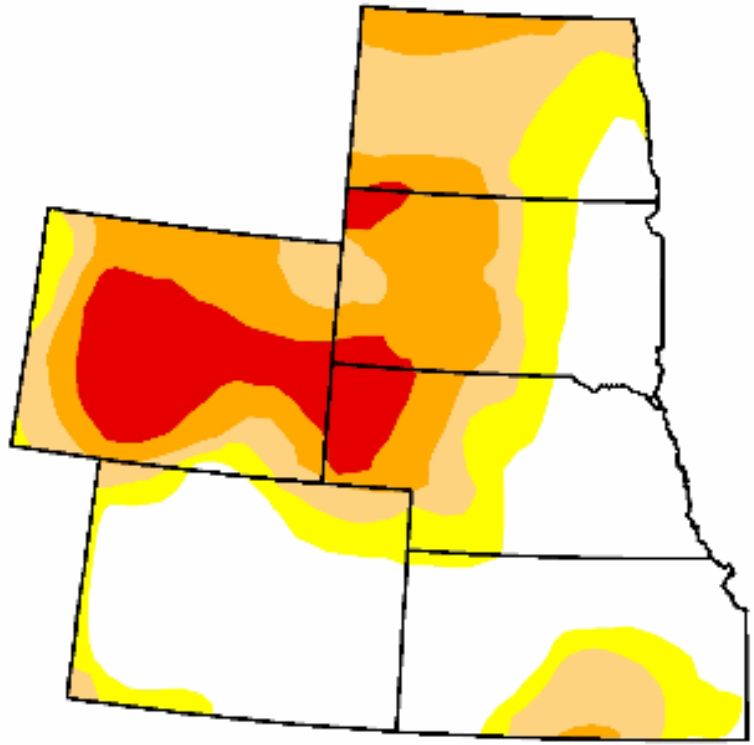
U.S. Drought Monitor

High Plains

March 13, 2007
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	39.5	60.5	45.3	27.8	10.1	0.0
Last Week (03/06/2007 map)	39.5	60.5	45.3	27.8	10.1	0.0
3 Months Ago (12/19/2006 map)	10.2	89.8	59.3	34.2	15.1	0.2
Start of Calendar Year (01/02/2007 map)	26.9	73.1	54.3	32.0	14.3	0.0
Start of Water Year (10/03/2006 map)	10.2	89.8	61.6	33.7	16.7	0.0
One Year Ago (03/14/2006 map)	33.3	66.7	41.7	5.5	0.2	0.0



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
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http://drought.unl.edu/dm

USDA National Drought Mitigation Center

Released Thursday, March 15, 2007

Author: Richard Heim, NOAA/NESDIS/NCDC

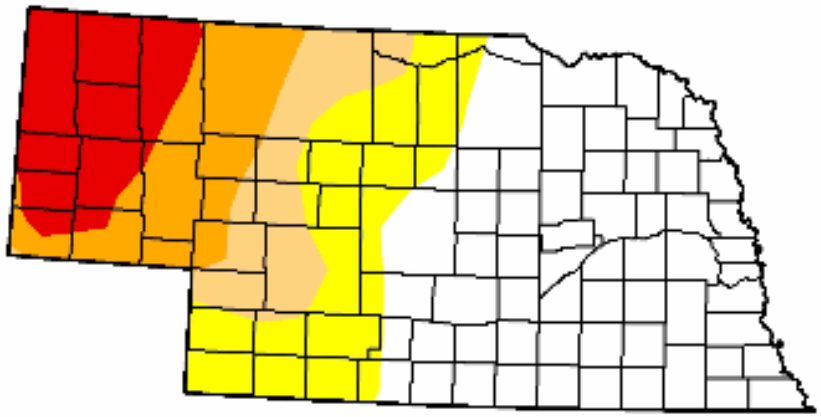
U.S. Drought Monitor

Nebraska

March 13, 2007
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	48.1	51.9	34.1	24.2	12.3	0.0
Last Week (03/06/2007 map)	48.1	51.9	34.1	24.2	12.3	0.0
3 Months Ago (12/19/2006 map)	1.0	99.0	63.7	41.3	30.8	0.0
Start of Calendar Year (01/02/2007 map)	35.9	64.1	56.3	38.9	25.6	0.0
Start of Water Year (10/03/2006 map)	9.0	91.0	66.9	41.6	30.7	0.0
One Year Ago (03/14/2006 map)	11.8	88.2	63.8	12.1	0.0	0.0



Intensity:

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The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

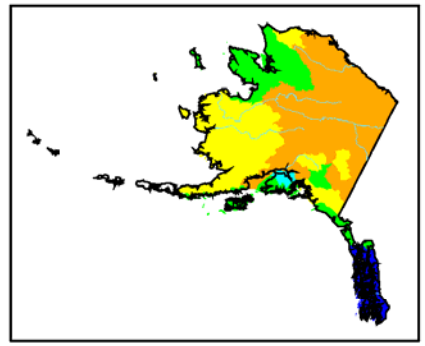
http://drought.unl.edu/dm

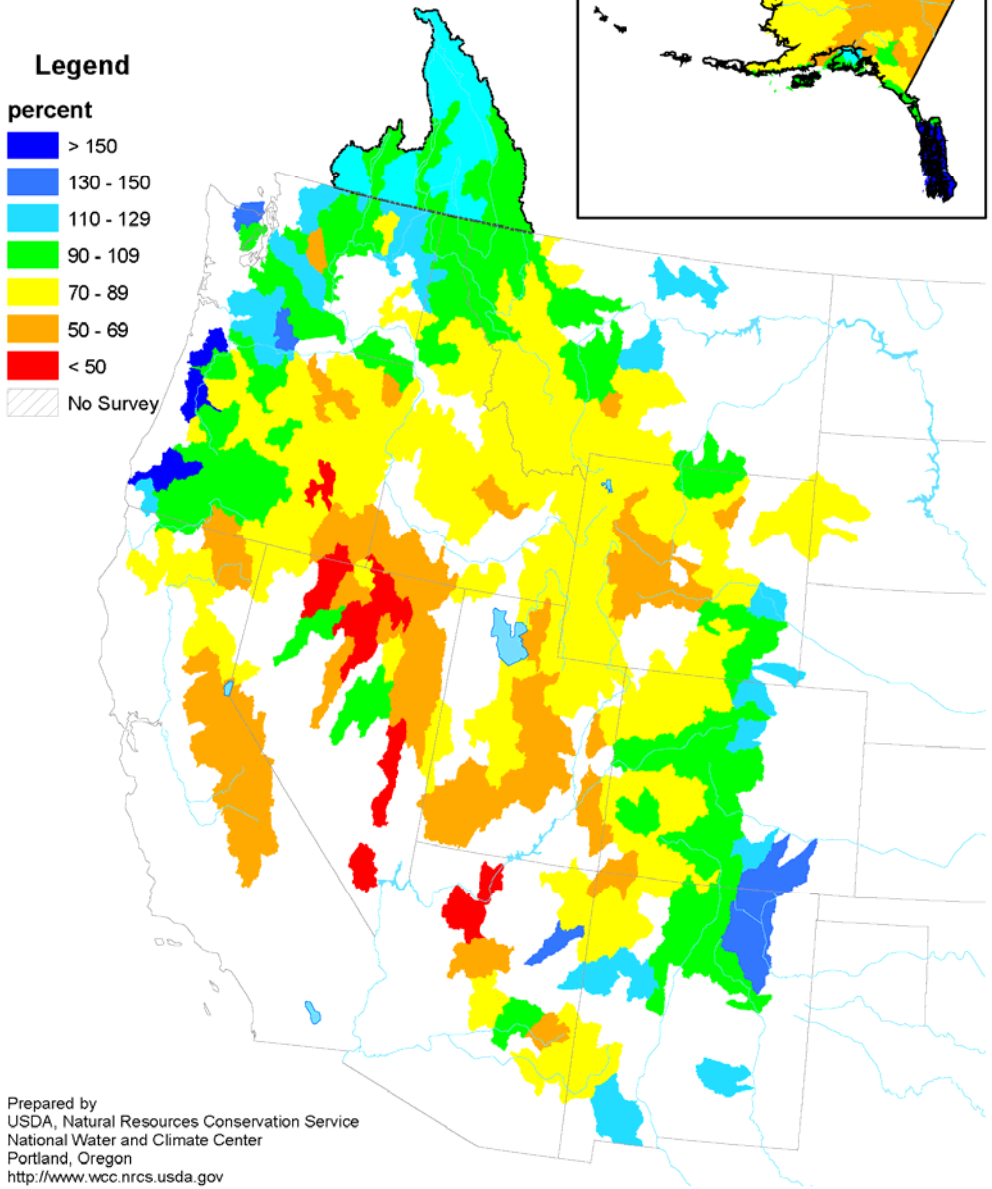
USDA National Drought Mitigation Center

Released Thursday, March 15, 2007

Author: Richard Heim, NOAA/NESDIS/NCDC

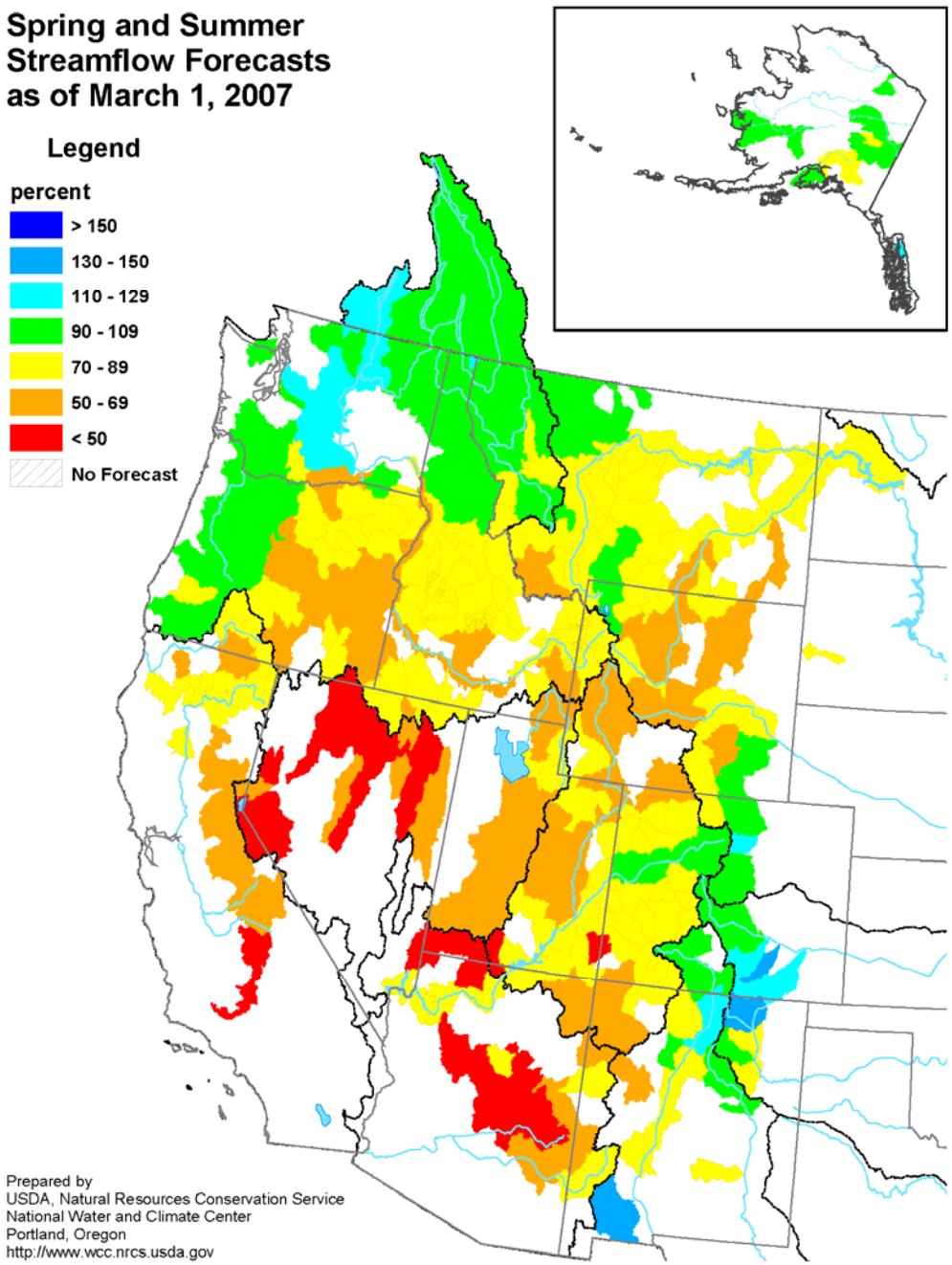
Mountain Snowpack as of March 1, 2007





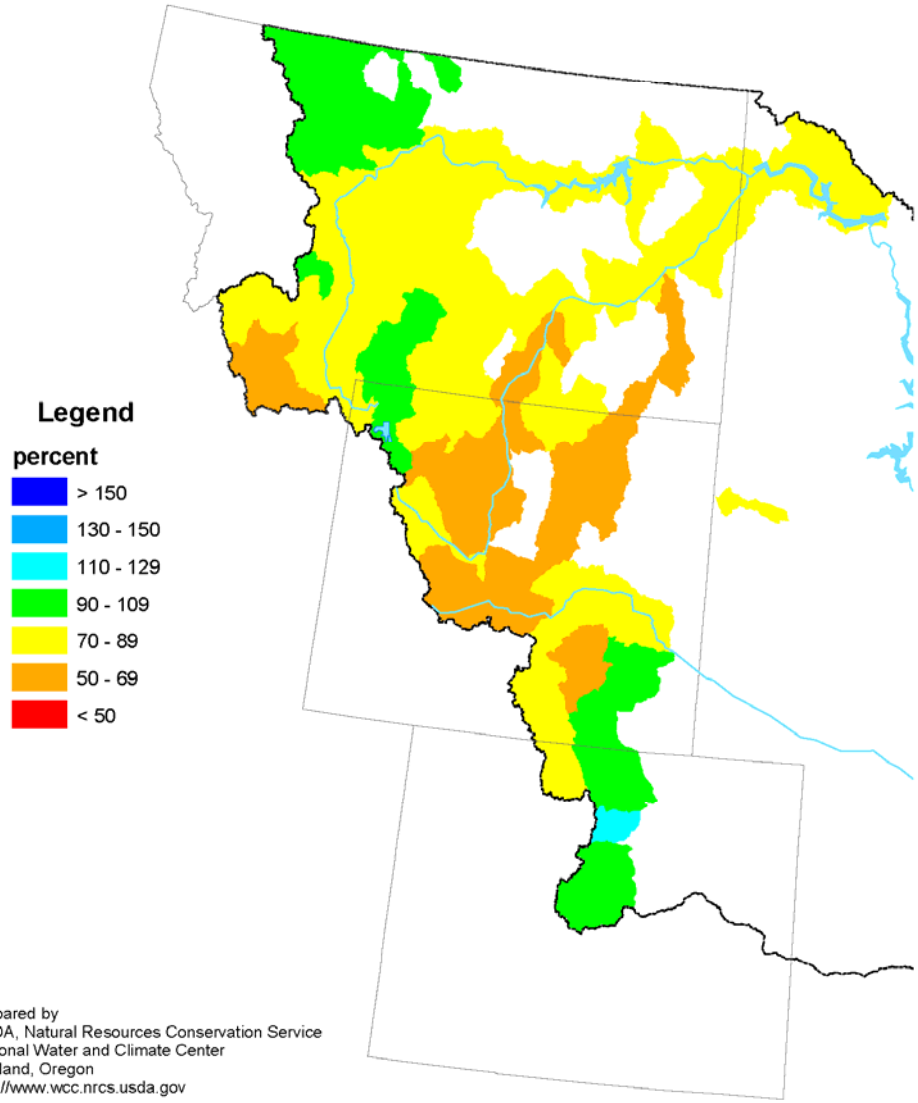
Prepared by
USDA, Natural Resources Conservation Service
National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

Spring and Summer Streamflow Forecasts as of March 1, 2007



Prepared by
USDA, Natural Resources Conservation Service
National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

Missouri River Basin
Spring and Summer Streamflow Forecasts
as of March 1, 2007



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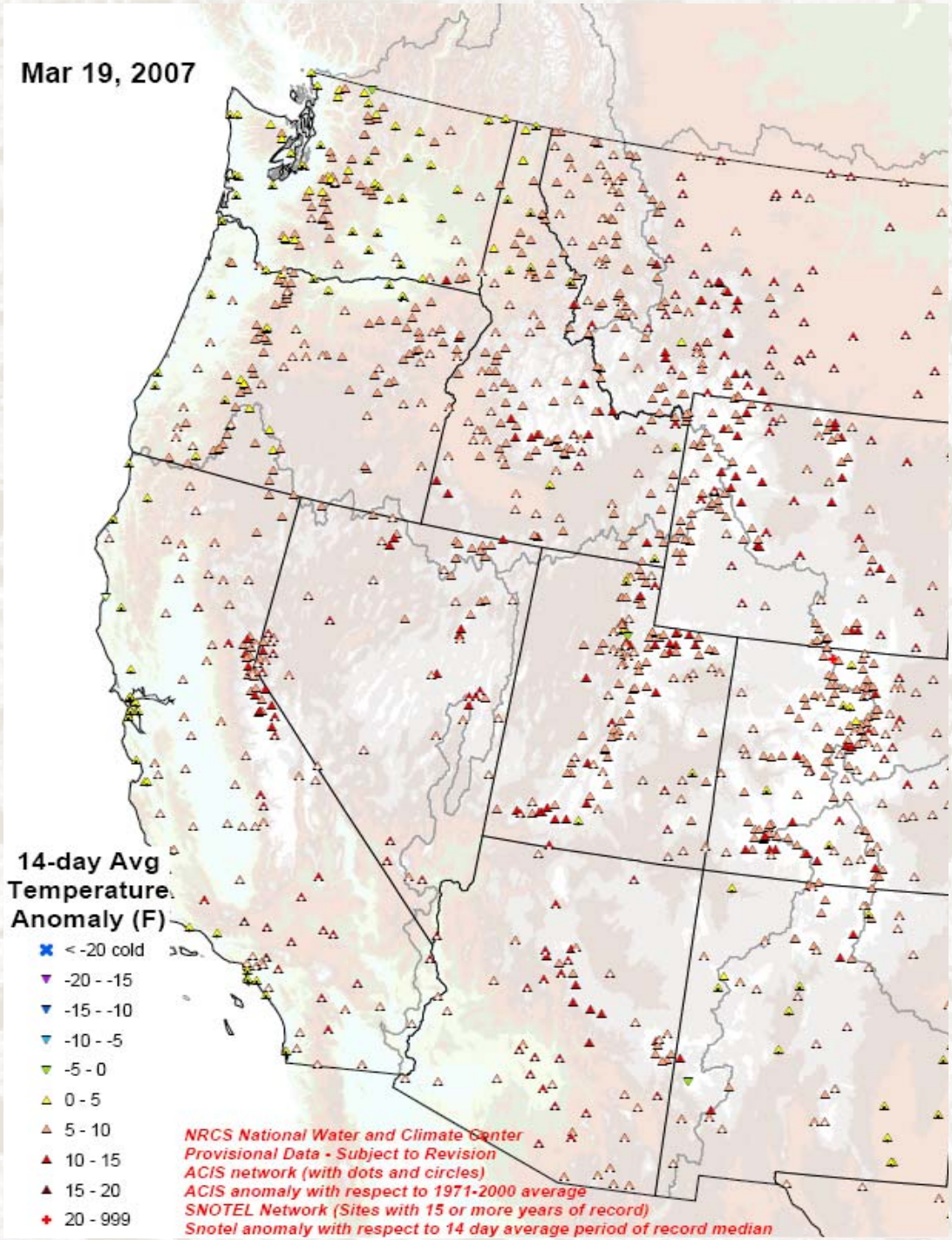
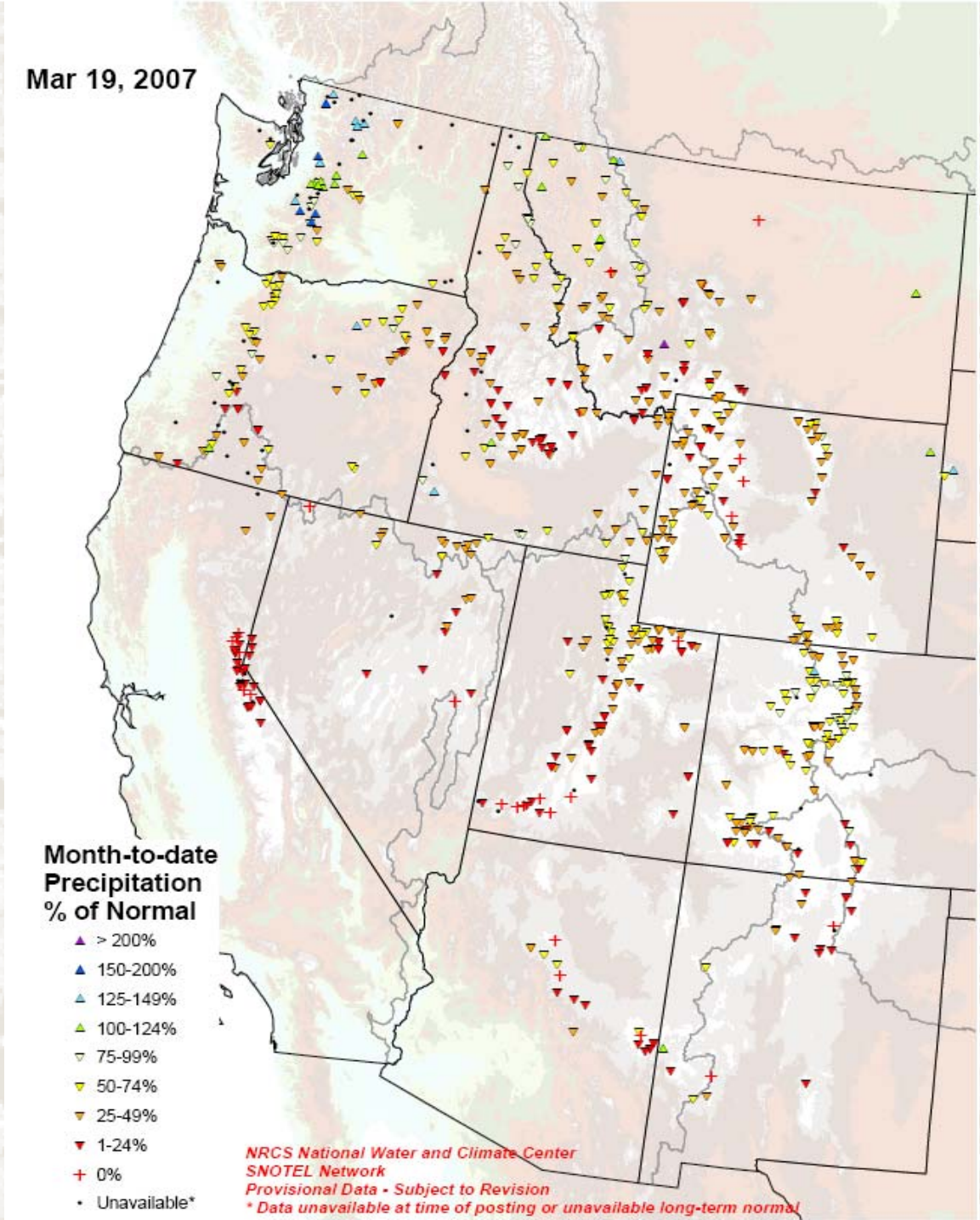
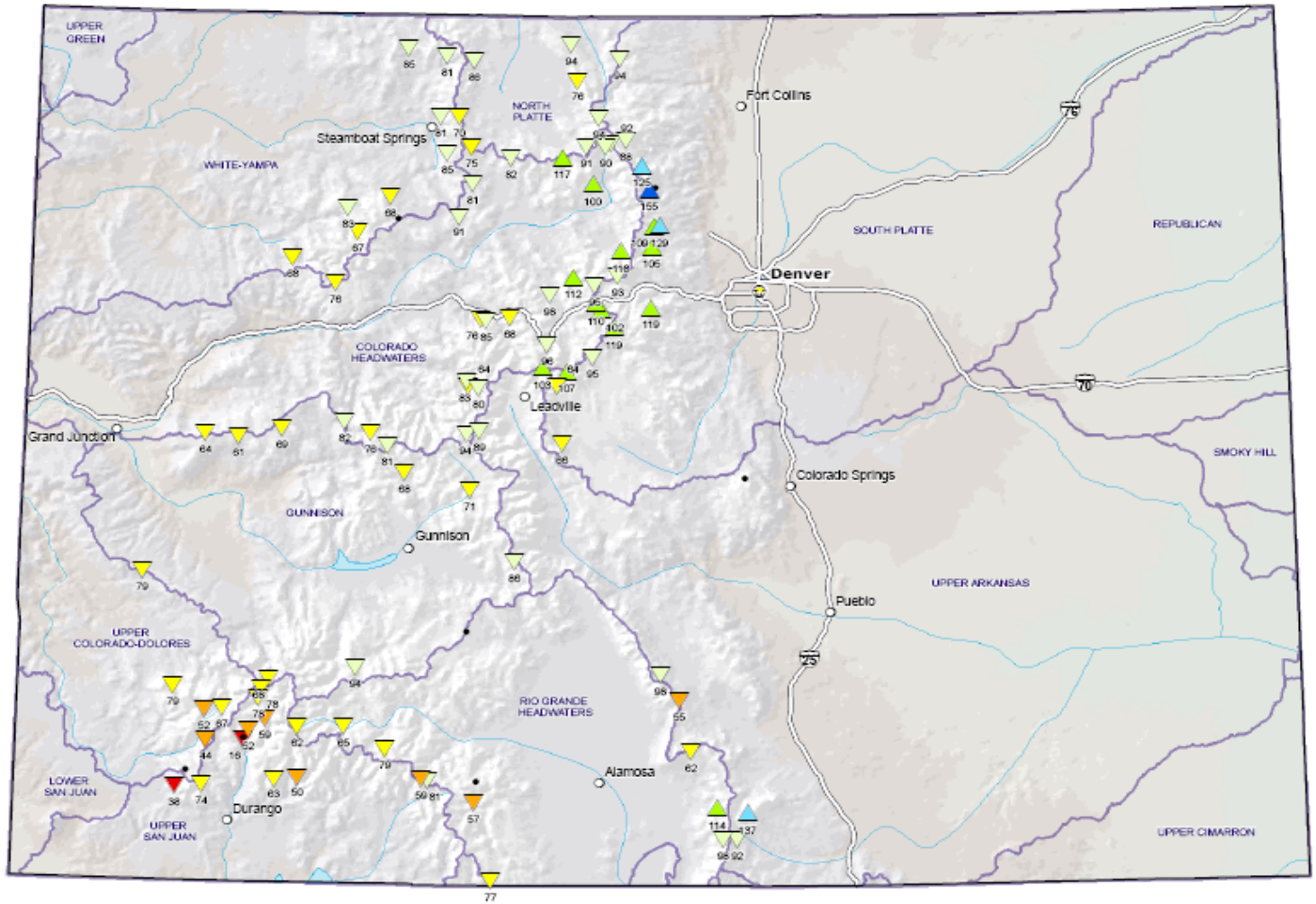

Mar 19, 2007
14-day Avg
Temperature
Anomaly (F)
< -20 cold
-20 - -15
-15 - -10
-10 - -5
-5 - 0
0 - 5
5 - 10
10 - 15
15 - 20
20 - 999
NRCS National Water and Climate Center
Provisional Data - Subject to Revision
ACIS network (with dots and circles)
ACIS anomaly with respect to 1971-2000 average
SNOTEL Network (Sites with 15 or more years of record)
Snotel anomaly with respect to 14 day average period of record median


Mar 19, 2007
Month-to-date
Precipitation
% of Normal
> 200%
150-200%
125-149%
100-124%
75-99%
50-74%
25-49%
1-24%
0%
Unavailable*
NRCS National Water and Climate Center
SNOTEL Network
Provisional Data - Subject to Revision
* Data unavailable at time of posting or unavailable long-term normal

Colorado
SNOTEL Snow Water Equivalent (SWE)
% of Normal

Mar 19, 2007



Current SWE
% of Normal

- > 160%
- 140-160%
- 120-139%
- 100-119%
- 80-99%
- 60-79%
- 40-59%
- 1-39%
- 0%
- Unavailable*

Provisional Data
Subject to Revision

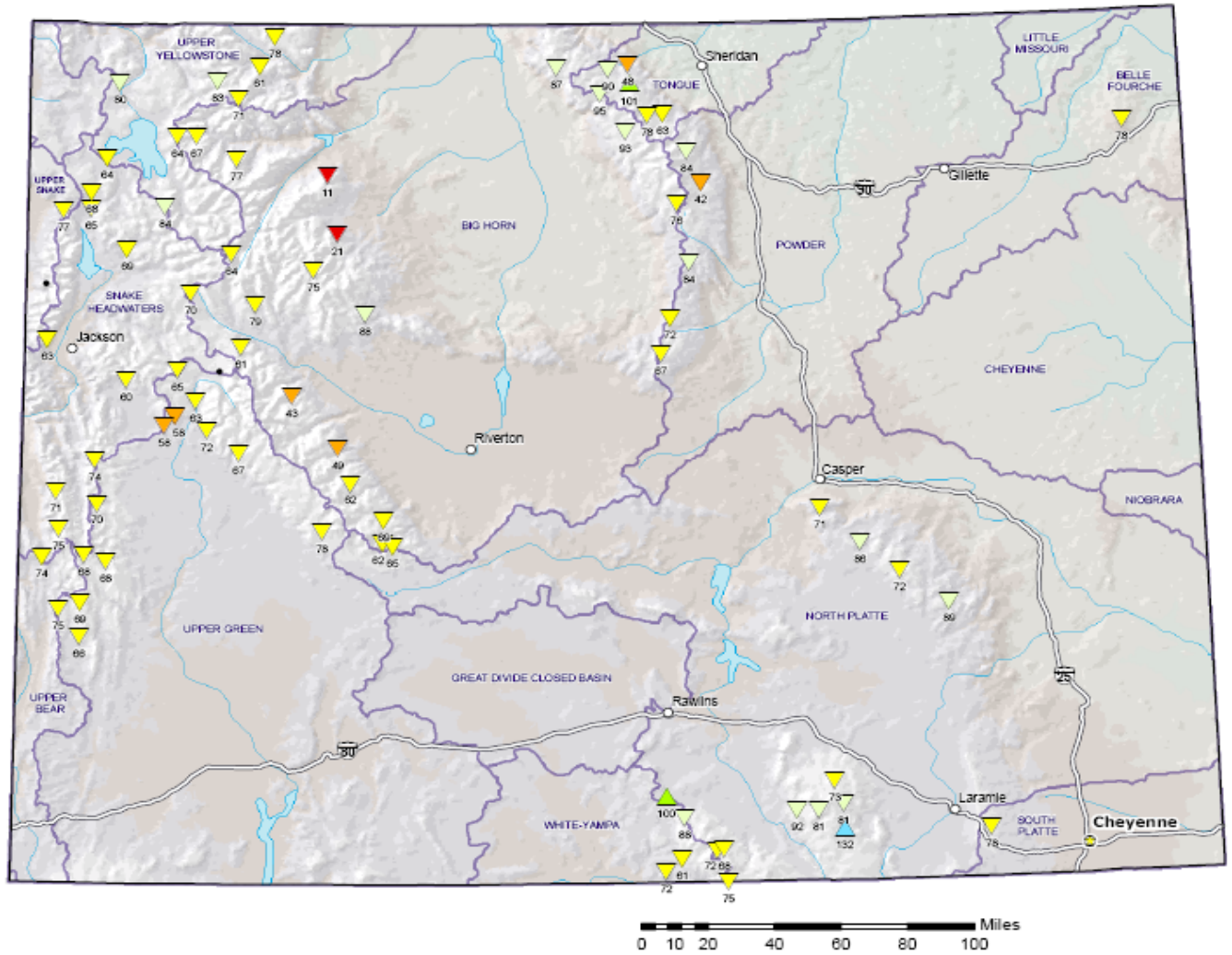
USDA NRCS

Prepared by the
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov/gis/

** Data unavailable at time of posting or unavailable long-term normal.*

Wyoming
SNOTEL Snow Water Equivalent (SWE)
% of Normal

Mar 19, 2007

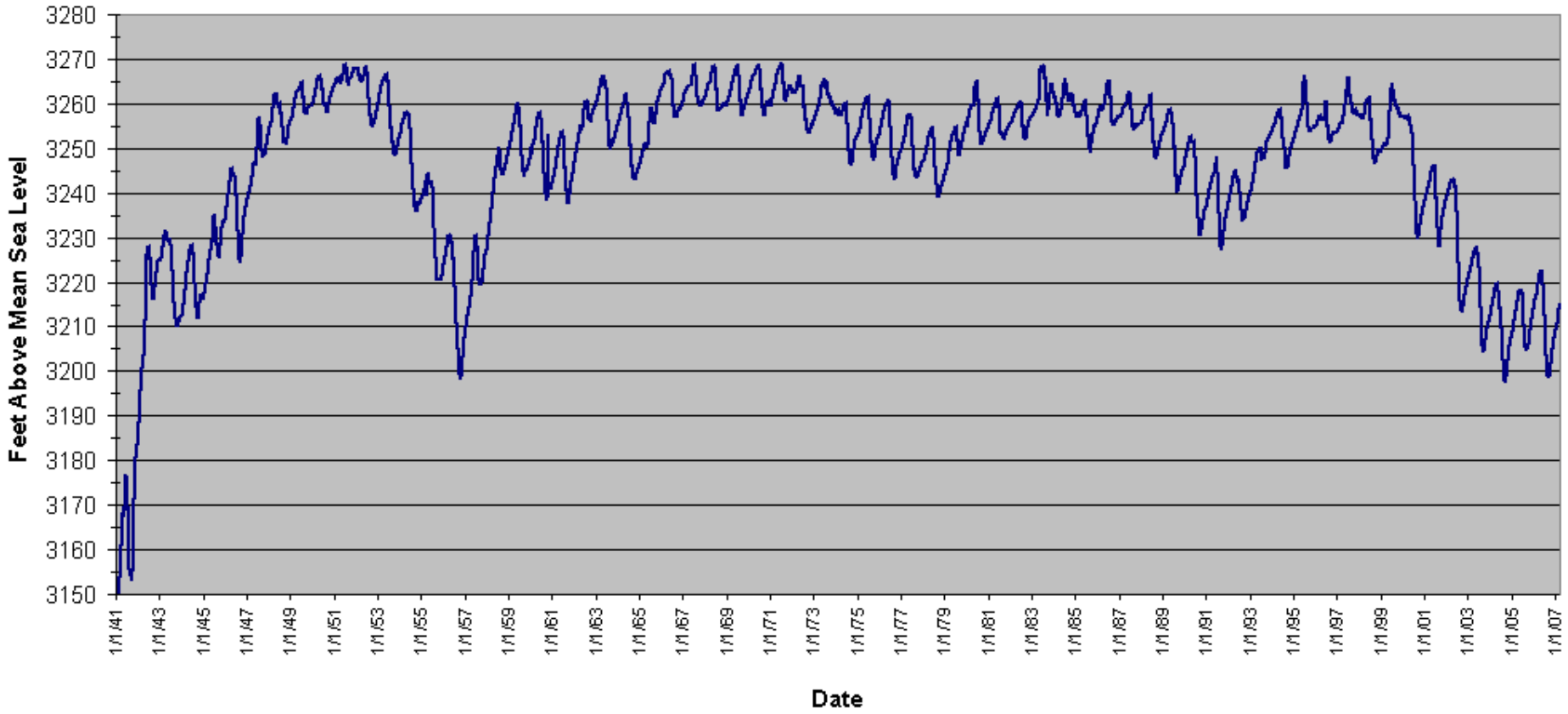


USDA NRCS

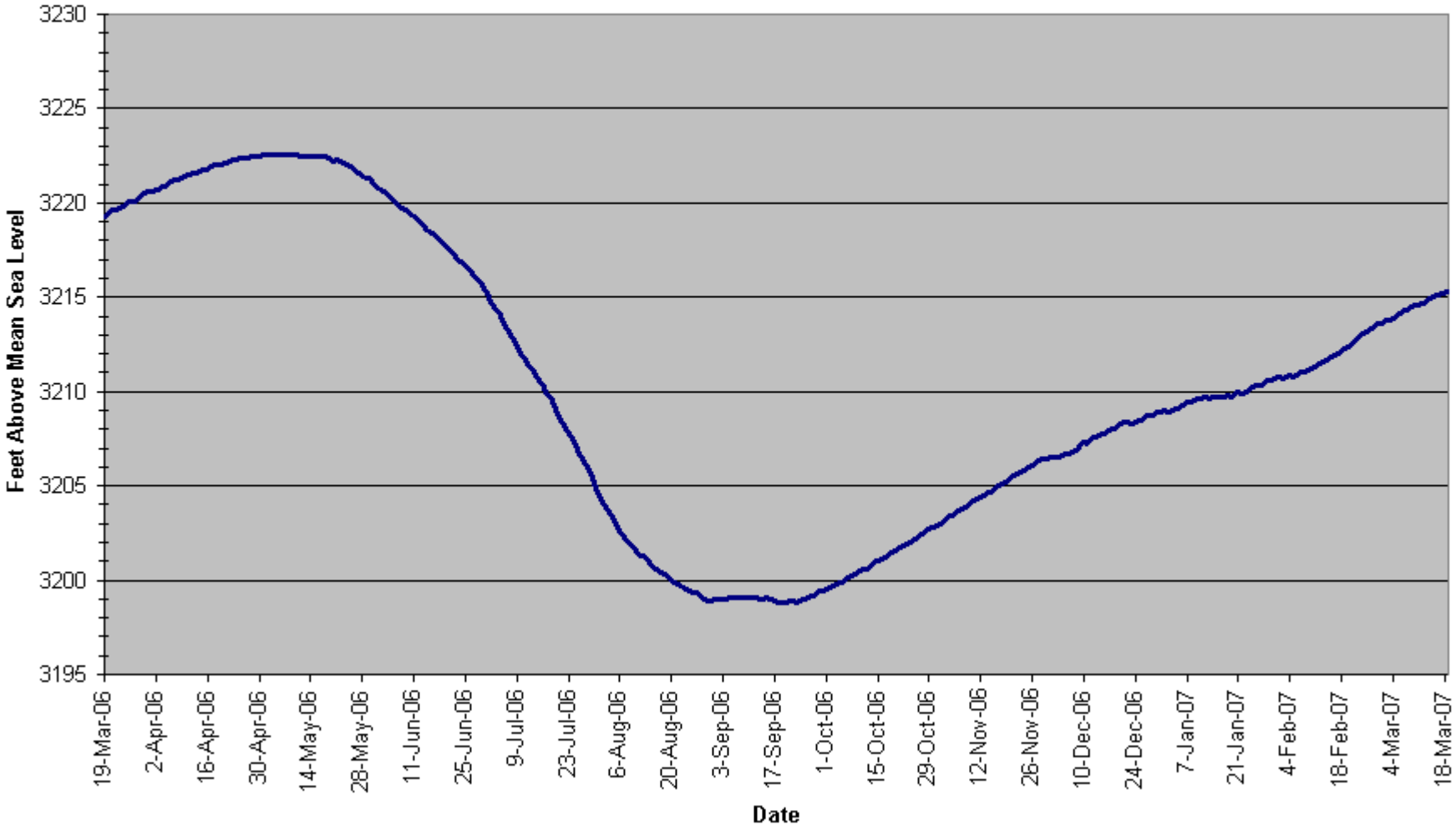
Prepared by the
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov/gis/

** Data unavailable at time of posting or unavailable long-term normal.*

Lake McConaughy Elevation
1941 to Present



Lake McConaughy Elevation
Since Mar. 19, 2006



Lake McConaughy

(as of March 19, 2007)

604,000 af (34.7% of capacity)
3,215.3 feet
(4.0 ft. below this time last year)

Record: 3,197.6 feet

SOURCE: CNPPID

Lake McConaughy

1998-2004: 7 straight years with declines

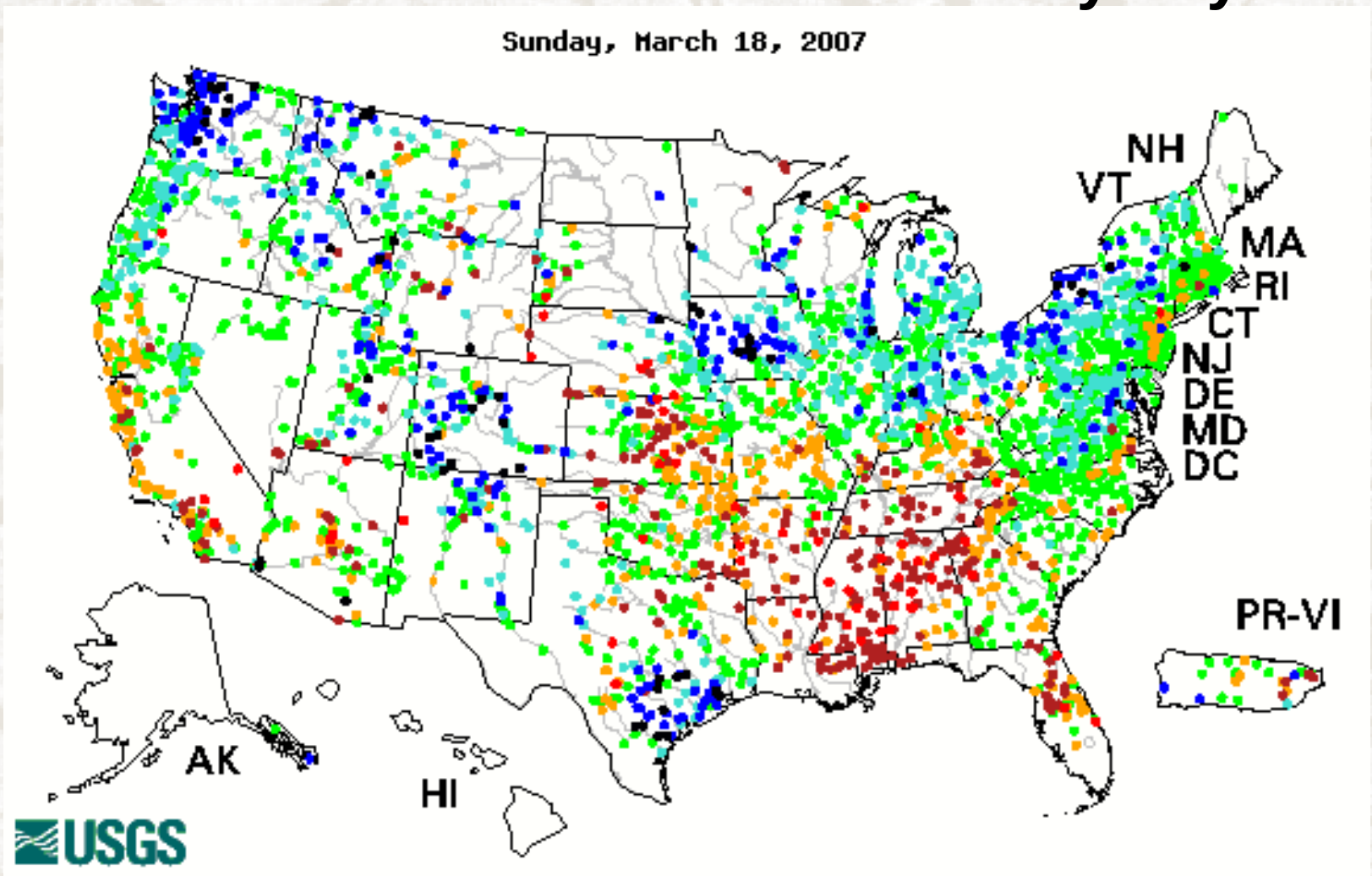
August 2005: level 8 feet above 2004's record low level (3,197.6 ft).

August 2006: level 1 foot about 2004's record

BOR snowmelt runoff forecast March 1, 2007: 84% of normal

SOURCE: CNPPID

Map of 14-day average streamflow compared To historical streamflow for the day of year



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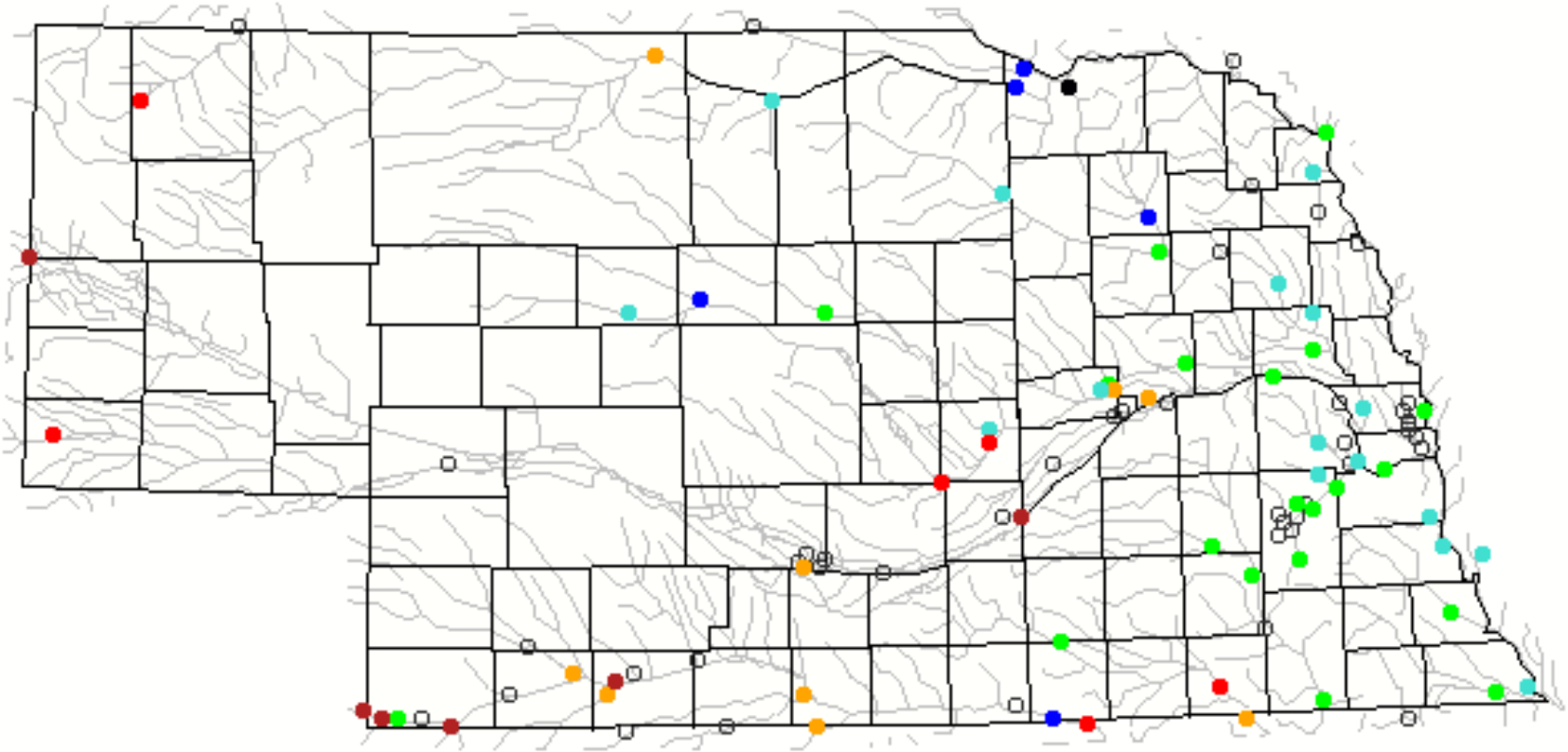


USGS

Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Republican River Basin

- Courtesy of Bill Peck, McCook Office, Bureau of Reclamation
- Overall assessment: “Not great…but did pretty well over the winter”
- Unexpected inflows in February
- Streamflows better than in previous years

Republican River Basin

- 2006 had historic low inflows at Enders, Butler, Swanson, and Strunk
- 2006 had second lowest inflows at Harlan and Bonny Reservoirs.

Republican River Basin

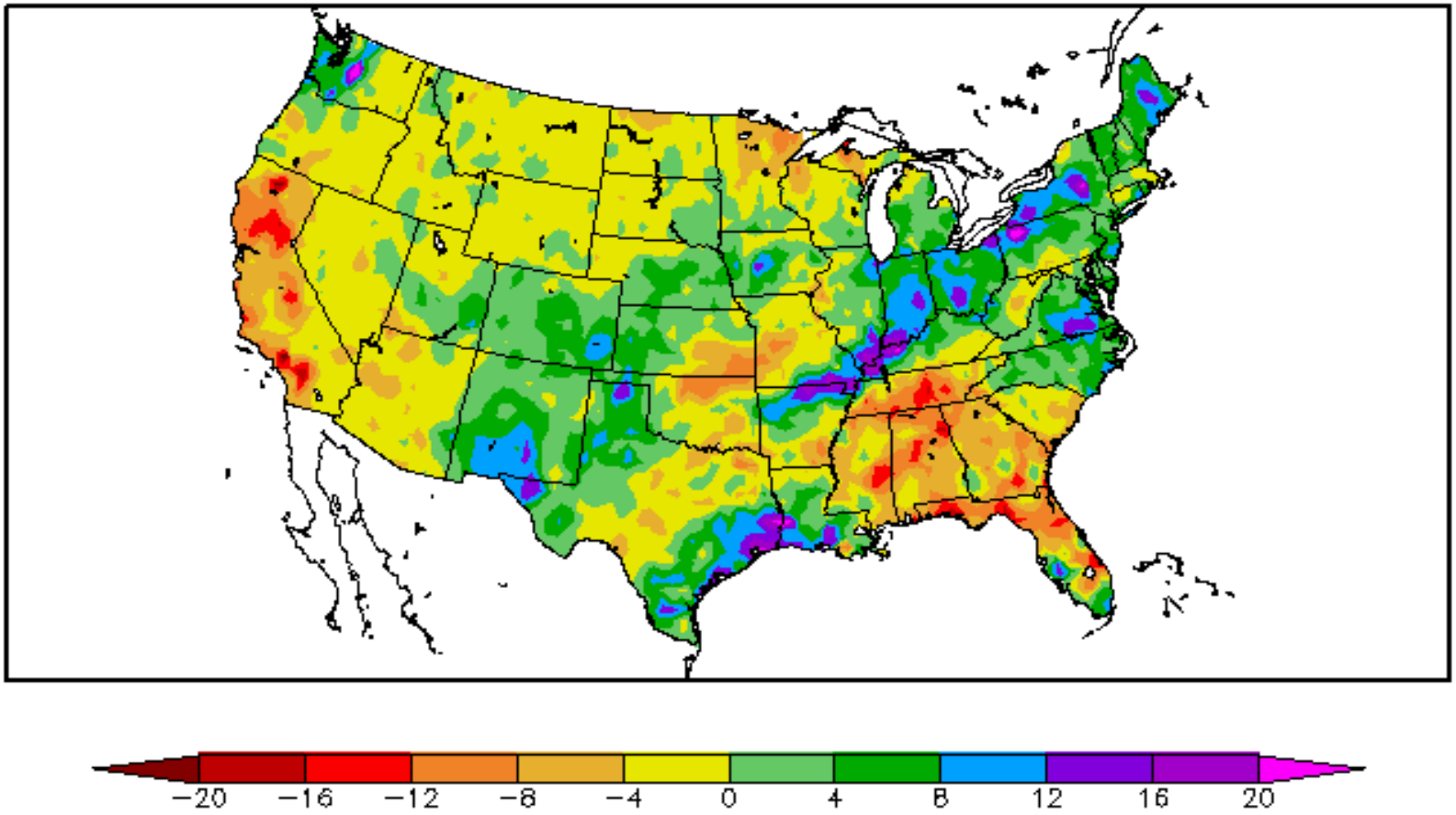
- Currently, Strunk Reservoir the “bright” spot at 97% full pool
- Harlan County at 48% (14.7 ft. down)
- Swanson (38%), Enders (26%), Butler (44%), Norton (33%), and Bonny (27%)
- Rain needed, but soil moisture profile wet

Nebraska Current Conditions…

University of Nebraska Lincoln

National Drought Mitigation Center

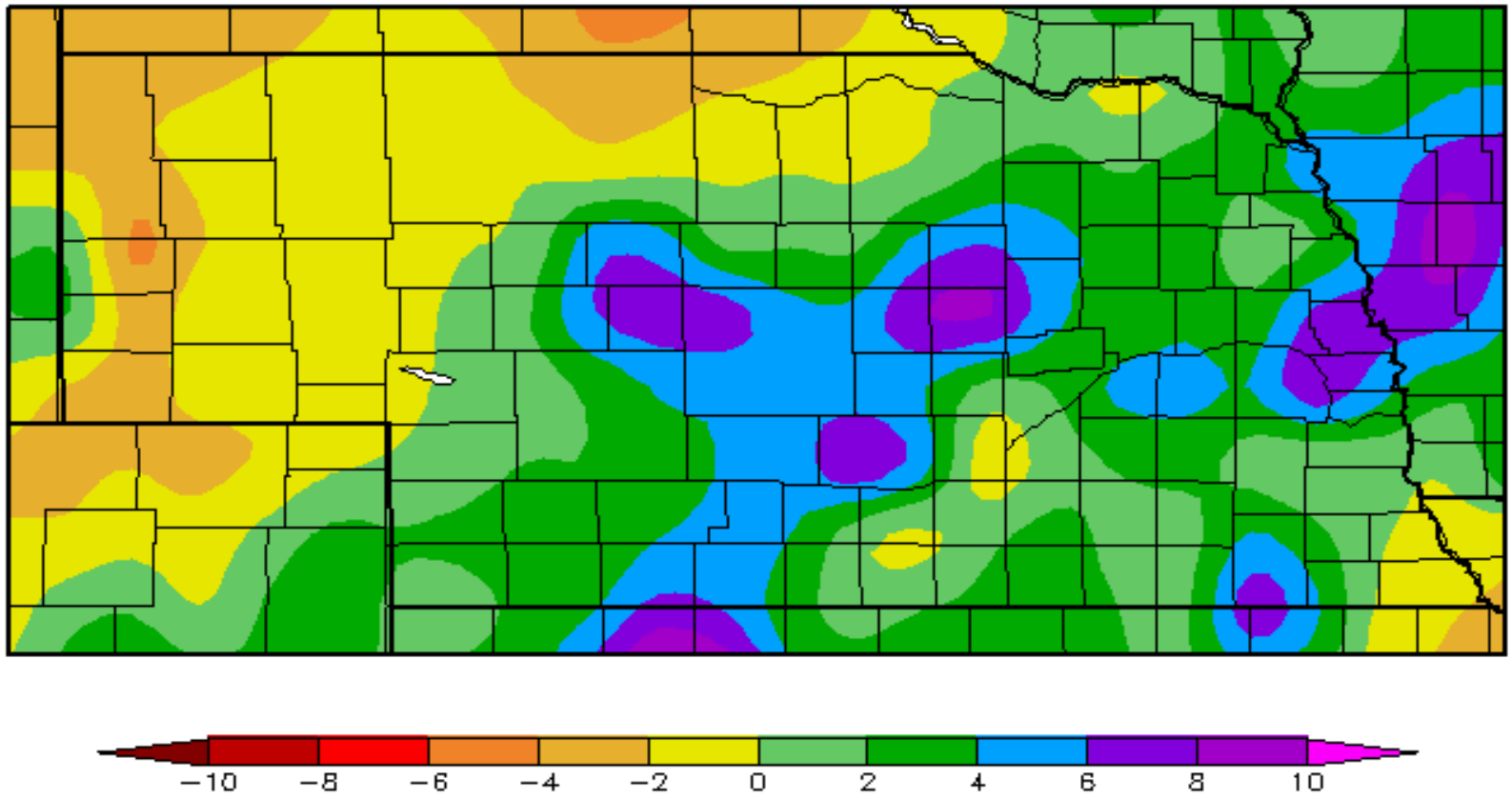
Departure from Normal Precipitation (in)
7/1/2006 – 3/18/2007



Generated 3/19/2007 at HPRCC using provisional data.

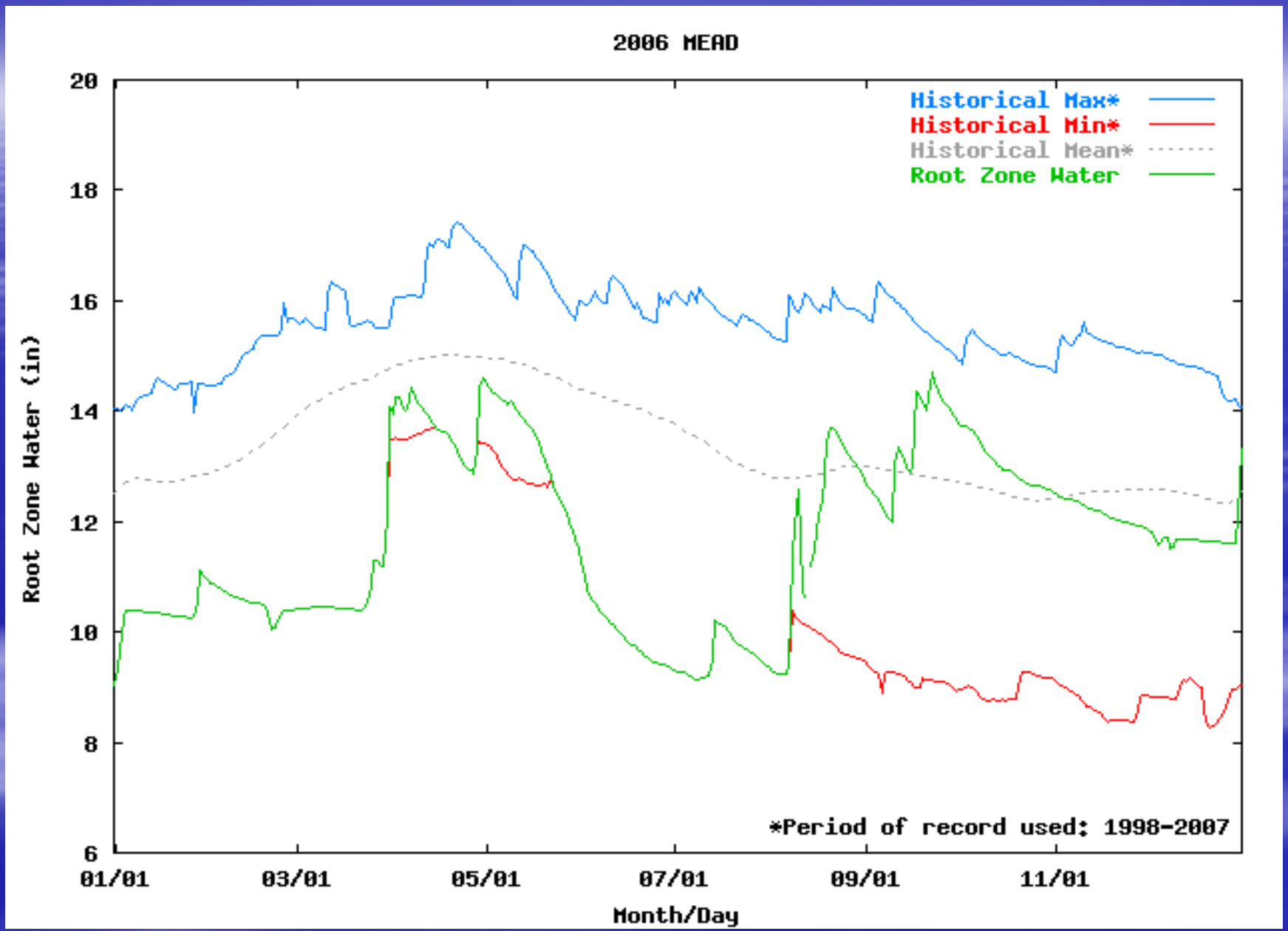
NOAA Regional Climate Centers

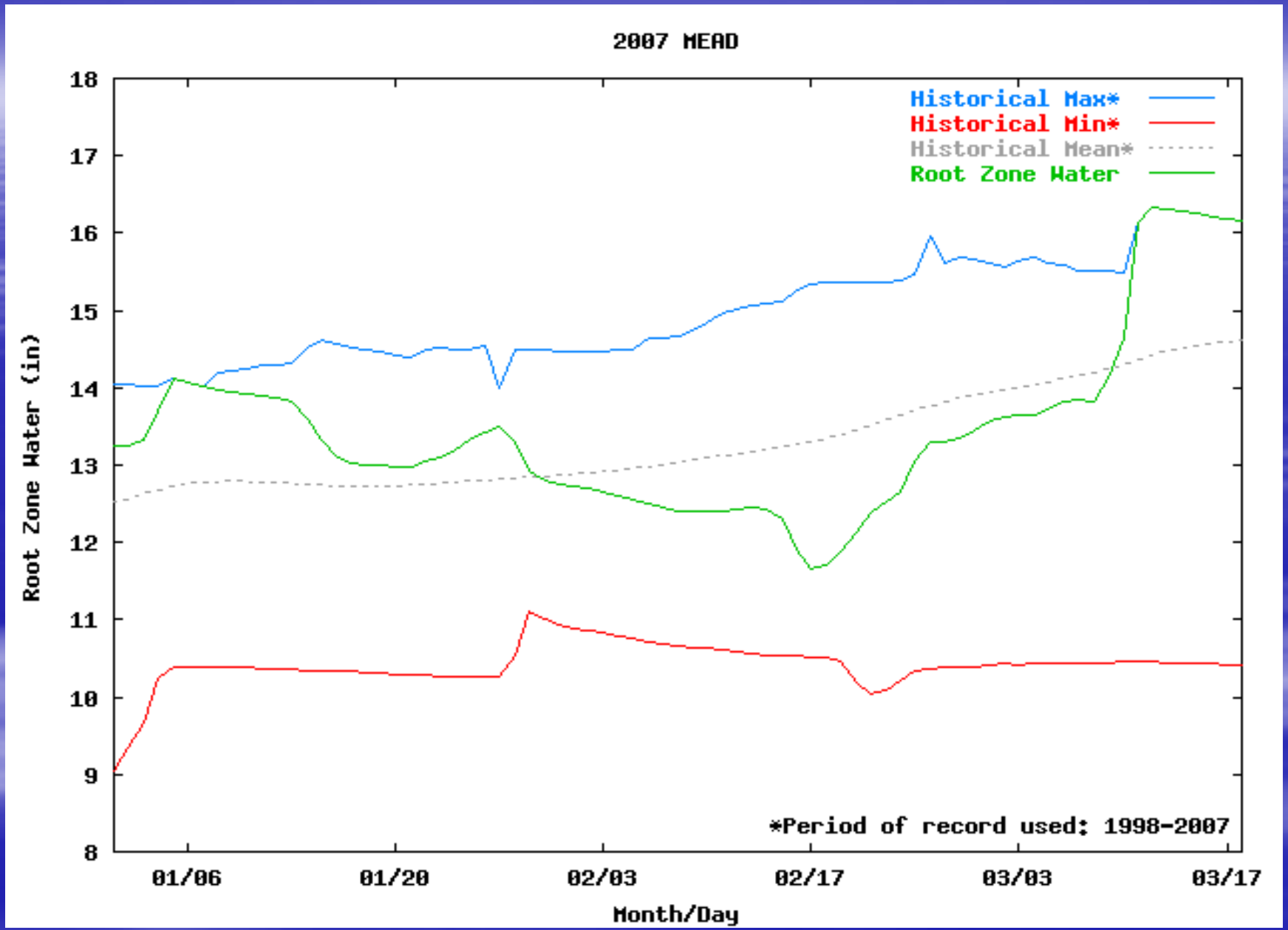
Departure from Normal Precipitation (in)
7/1/2006 – 3/18/2007

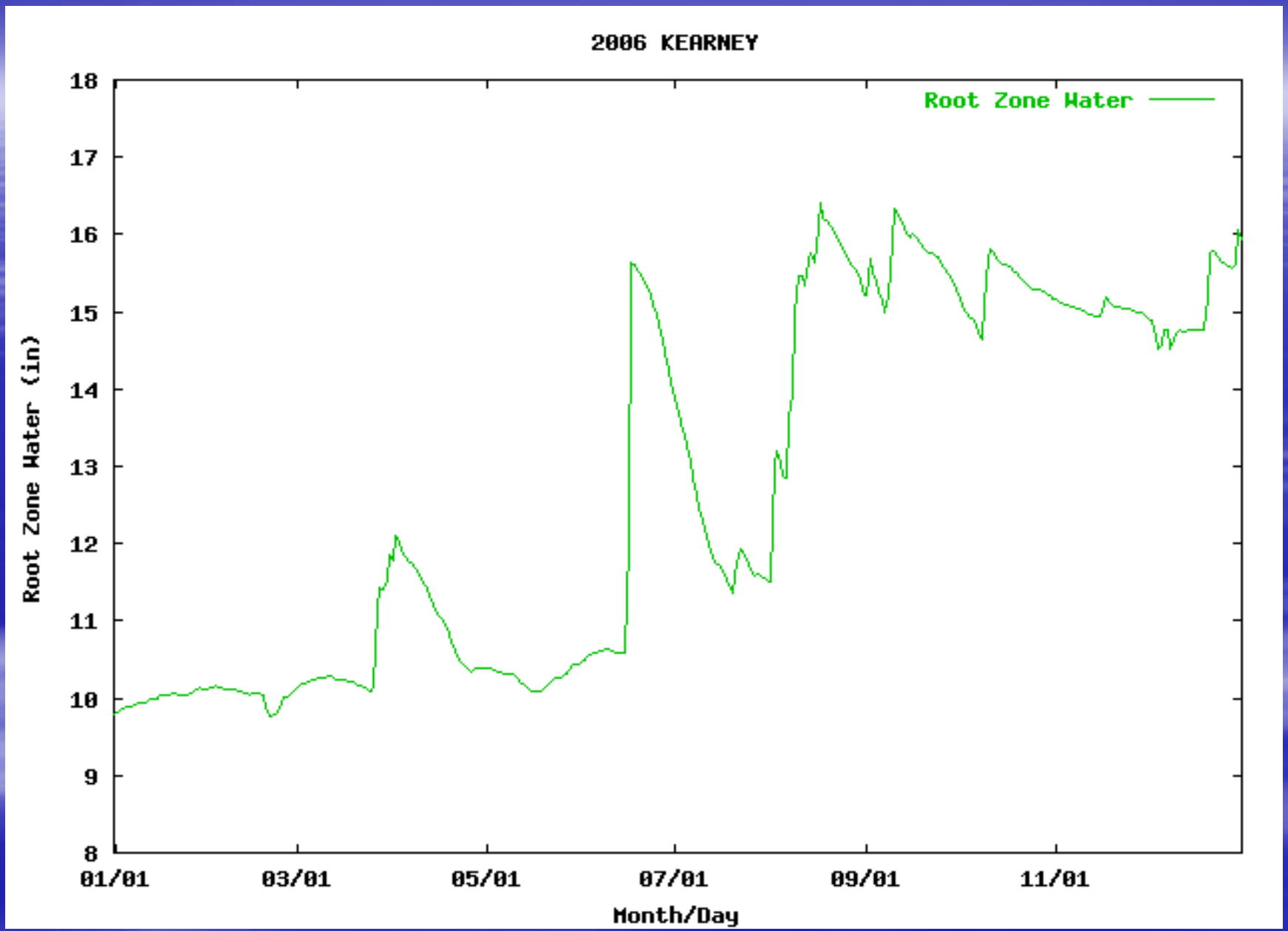


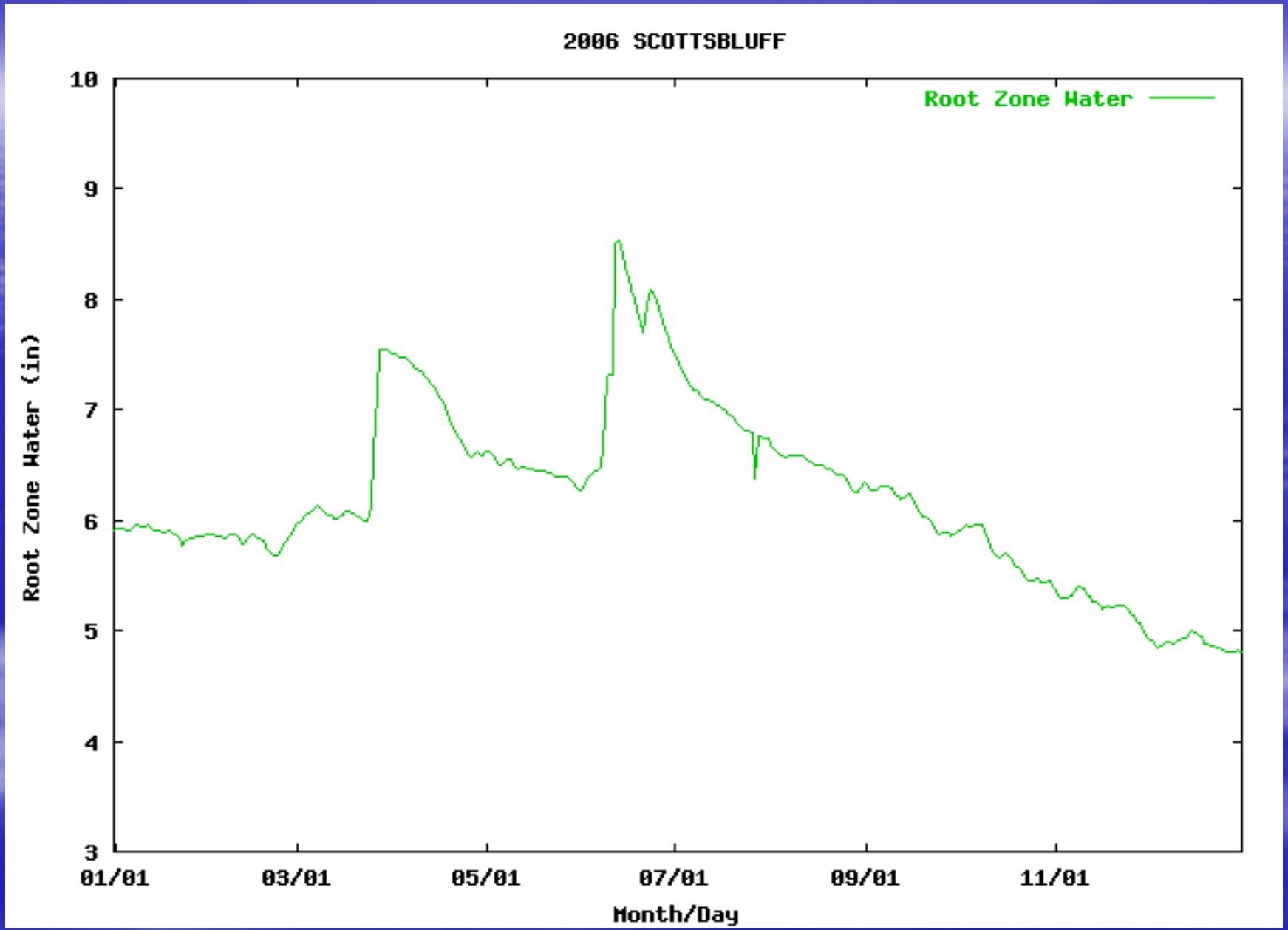
Generated 3/19/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers


2006 MEAD
Historical Max*
Historical Min*
Historical Mean*
Root Zone Water
Root Zone Water (in)
20
18
16
14
12
10
8
6
01/01
03/01
05/01
07/01
09/01
11/01
Month/Day
*Period of record used: 1998-2007


2007 MEAD
Historical Max*
Historical Min*
Historical Mean*
Root Zone Water
Root Zone Water (in)
18
17
16
15
14
13
12
11
10
9
8
01/06
01/20
02/03
02/17
03/03
03/17
Month/Day
*Period of record used: 1998-2007


2006 KEARNEY
Root Zone Water
Root Zone Water (in)
18
17
16
15
14
13
12
11
10
9
8
01/01
03/01
05/01
07/01
09/01
11/01
Month/Day


2006 SCOTTSBLUFF
Root Zone Water
Root Zone Water (in)
10
9
8
7
6
5
4
3
01/01
03/01
05/01
07/01
09/01
11/01
Month/Day

Precipitation Analysis

	Omaha	G Island	Scottsbluff
1971-2000	29.62	25.89	15.16
2001-2006	27.38	22.06	12.49
1971-1976	27.34	22.48	14.56
1977-1980	33.03	25.15	16.04
2007-2010	32.97	29.78	19.15
Probability	34%	23%	24%

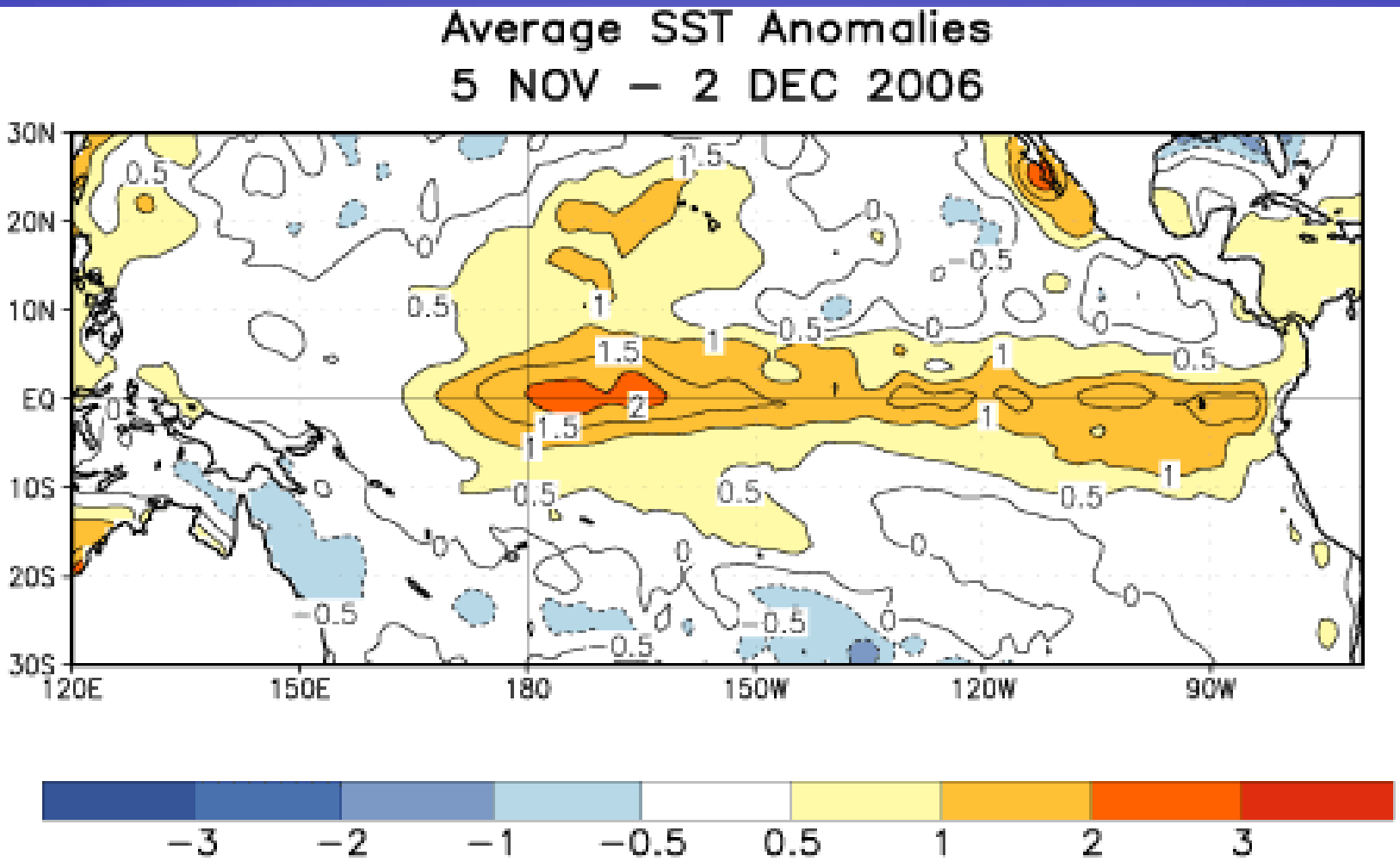


Figure 1. Average SST anomalies (°C) for the four-week period 5 November-2 December 2006. The SST anomalies are computed with respect to the 1971-2000 base period means. (Xue et al. 2003, J. Climate, 16, 1601-1612).

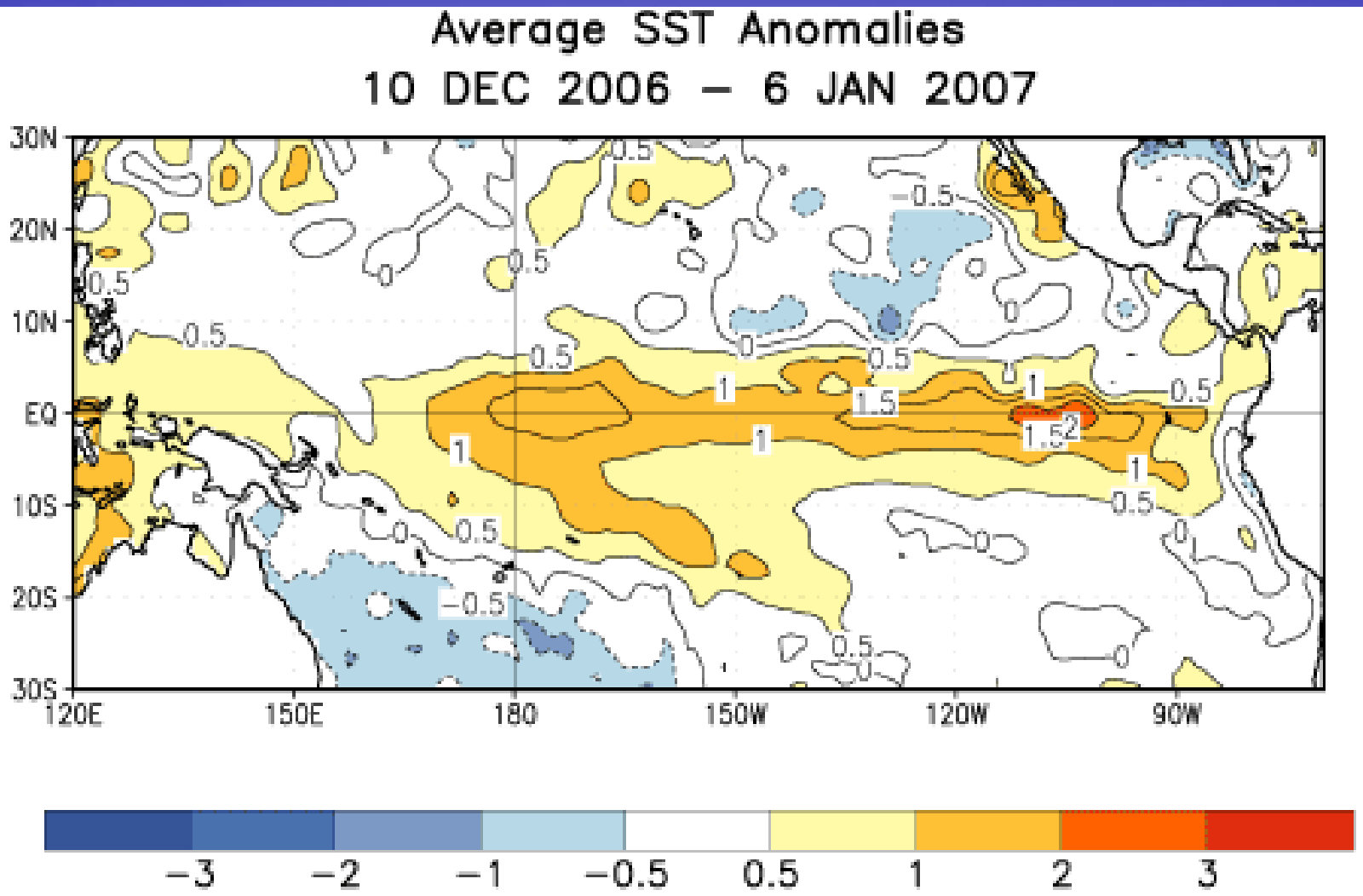
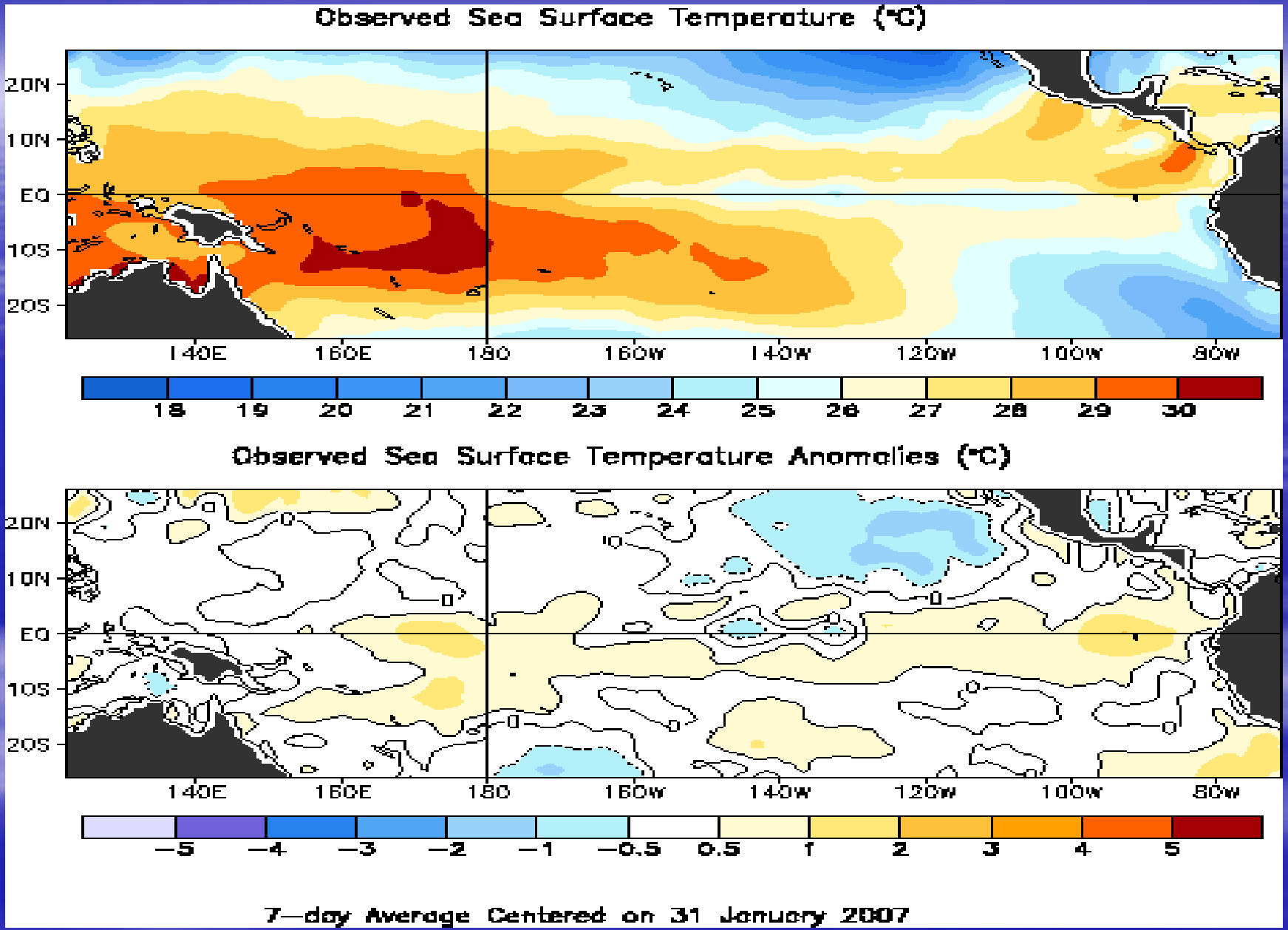
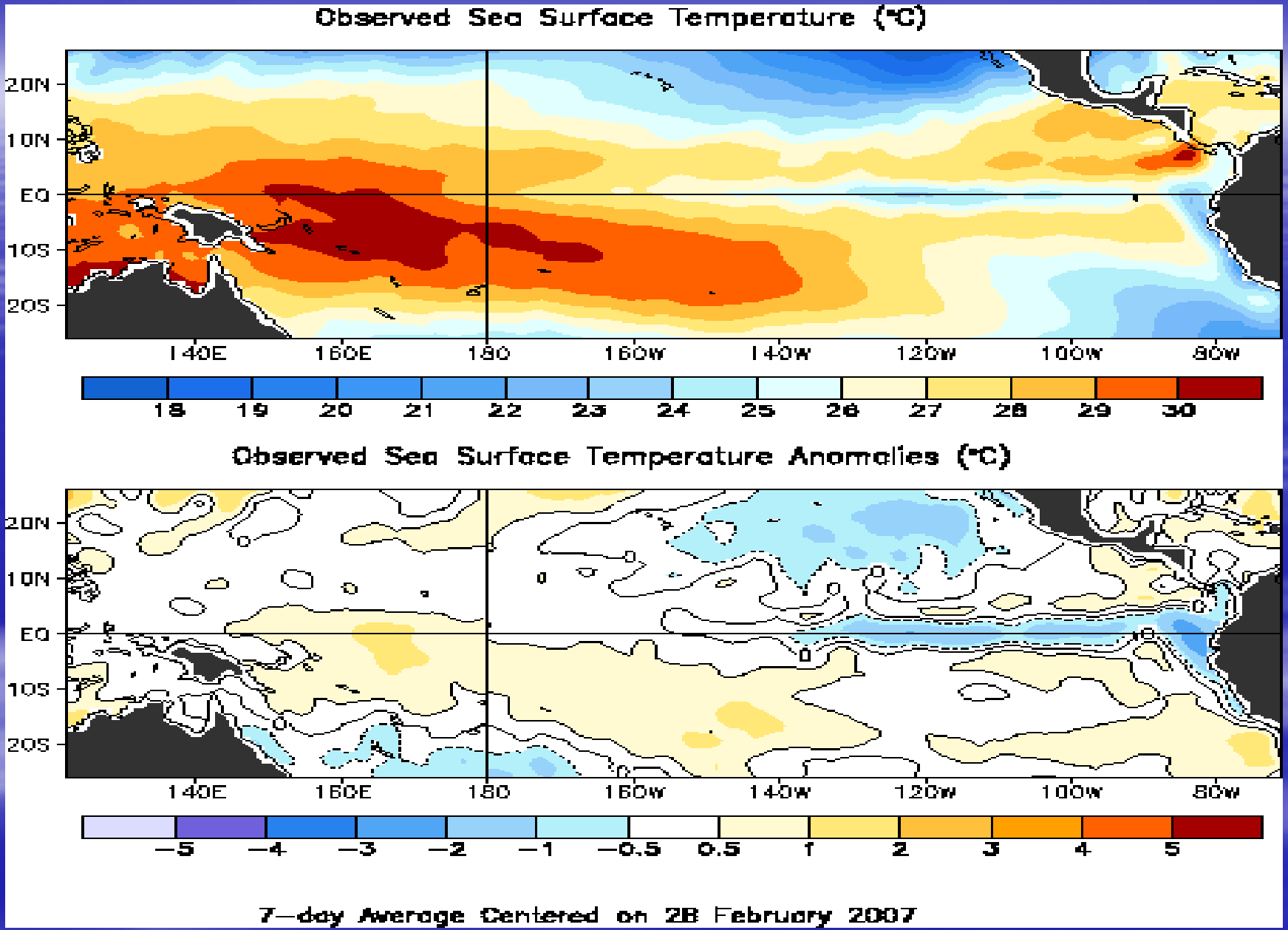
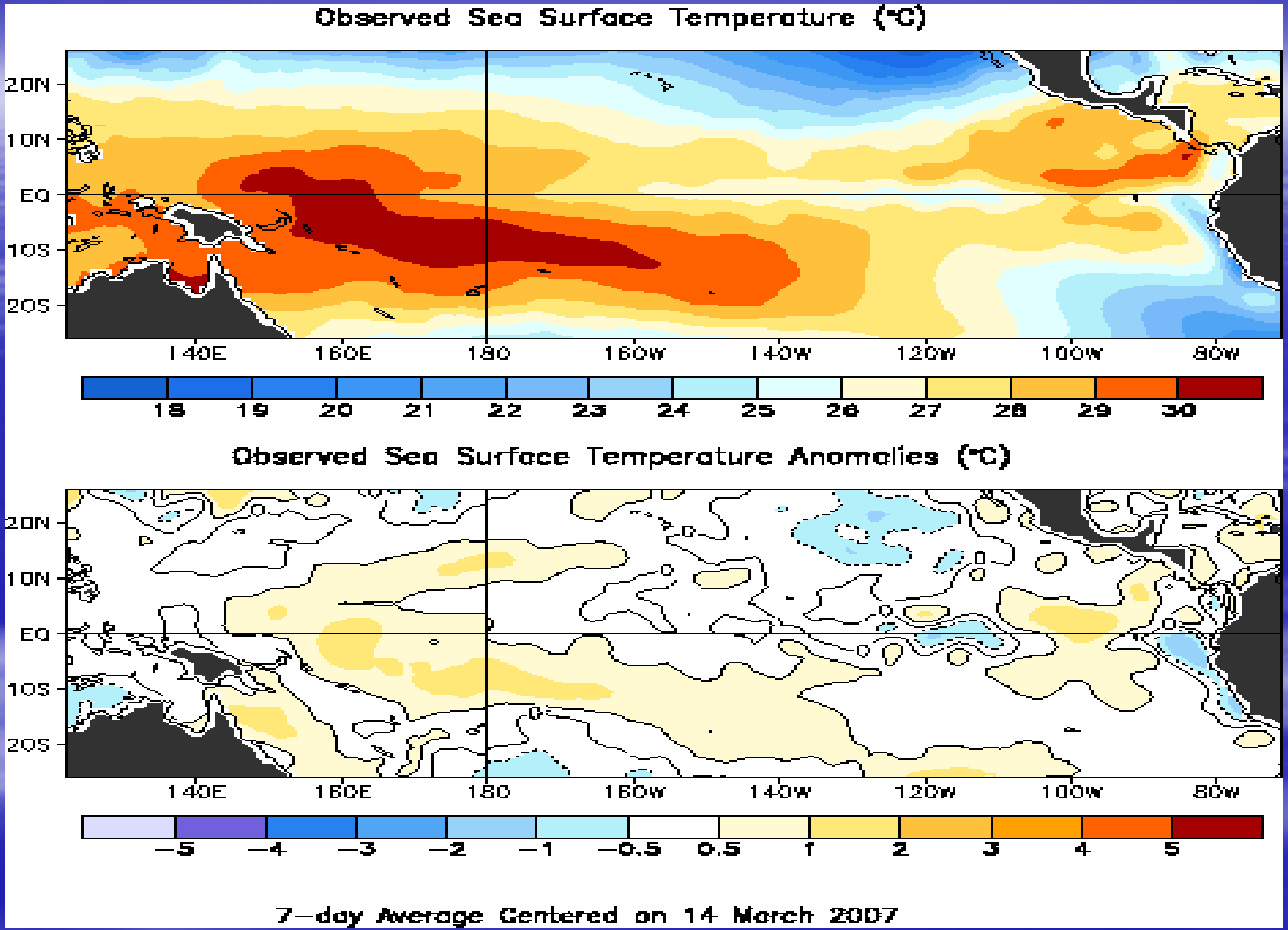


Figure 1. Average SST anomalies (°C) for the four-week period 10 December 2006-6 January 2007. The SST anomalies are computed with respect to the 1971-2000 base period means (Xue et al. 2003, J. Climate, 16, 1601-1612).


Observed Sea Surface Temperature (°C)
20N
10N
EQ
10S
20S
140E
160E
180
160W
140W
120W
100W
80W
18
19
20
21
22
23
24
25
26
27
28
29
30
Observed Sea Surface Temperature Anomalies (°C)
20N
10N
EQ
10S
20S
140E
160E
180
160W
140W
120W
100W
80W
−5
−4
−3
−2
−1
−0.5
0.5
1
2
3
4
5
7−day Average Centered on 31 January 2007

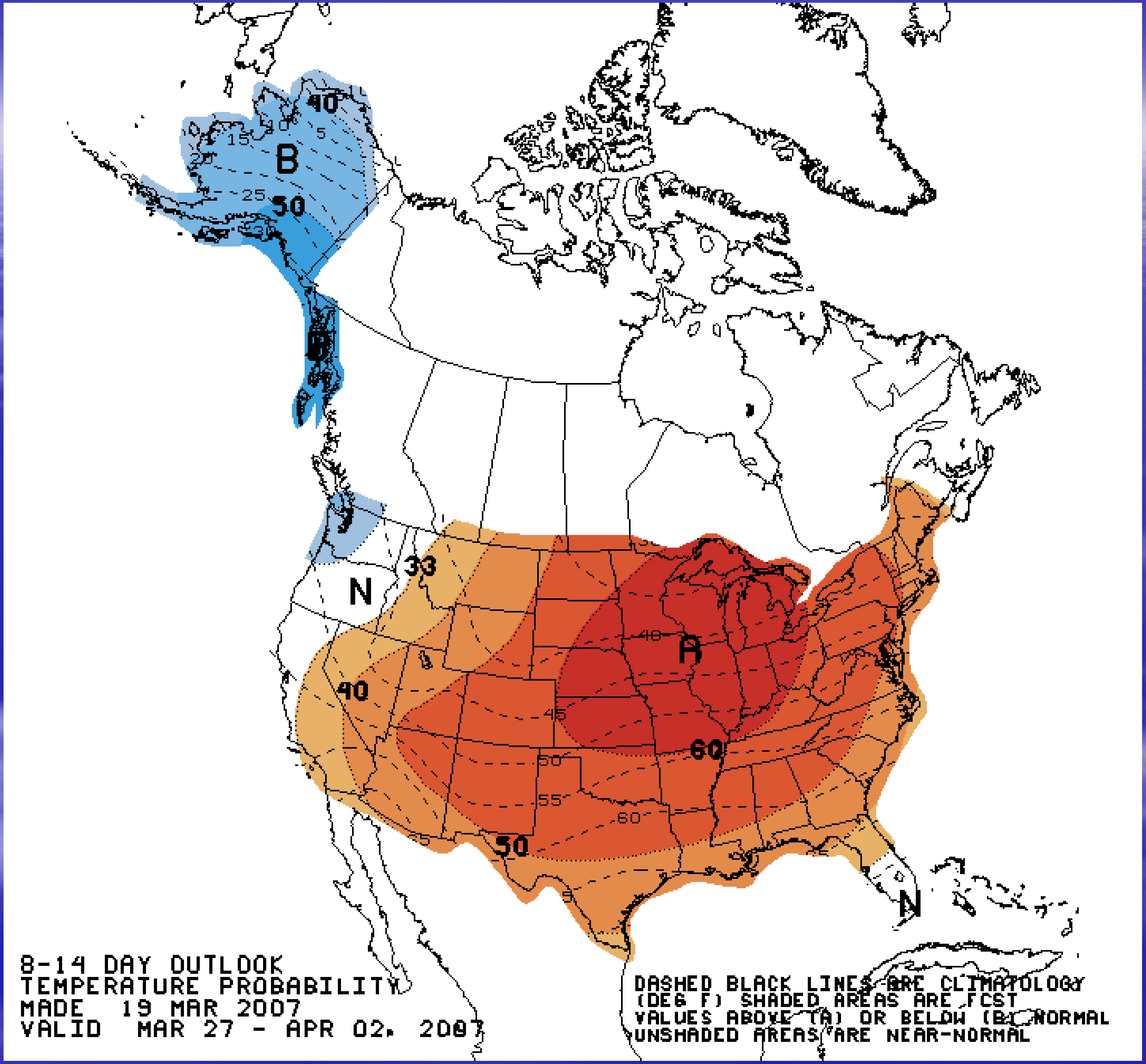

Observed Sea Surface Temperature (°C)
20N
10N
EQ
10S
20S
140E
160E
180
160W
140W
120W
100W
80W
18
19
20
21
22
23
24
25
26
27
28
29
30
Observed Sea Surface Temperature Anomalies (°C)
20N
10N
EQ
10S
20S
140E
160E
180
160W
140W
120W
100W
80W
−5
−4
−3
−2
−1
−0.5
0.5
1
2
3
4
5
7−day Average Centered on 28 February 2007


Observed Sea Surface Temperature (°C)
20N
10N
EQ
10S
20S
140E
160E
180
160W
140W
120W
100W
80W
18
19
20
21
22
23
24
25
26
27
28
29
30
Observed Sea Surface Temperature Anomalies (°C)
20N
10N
EQ
10S
20S
140E
160E
180
160W
140W
120W
100W
80W
−5
−4
−3
−2
−1
−0.5
0.5
1
2
3
4
5
7−day Average Centered on 14 March 2007

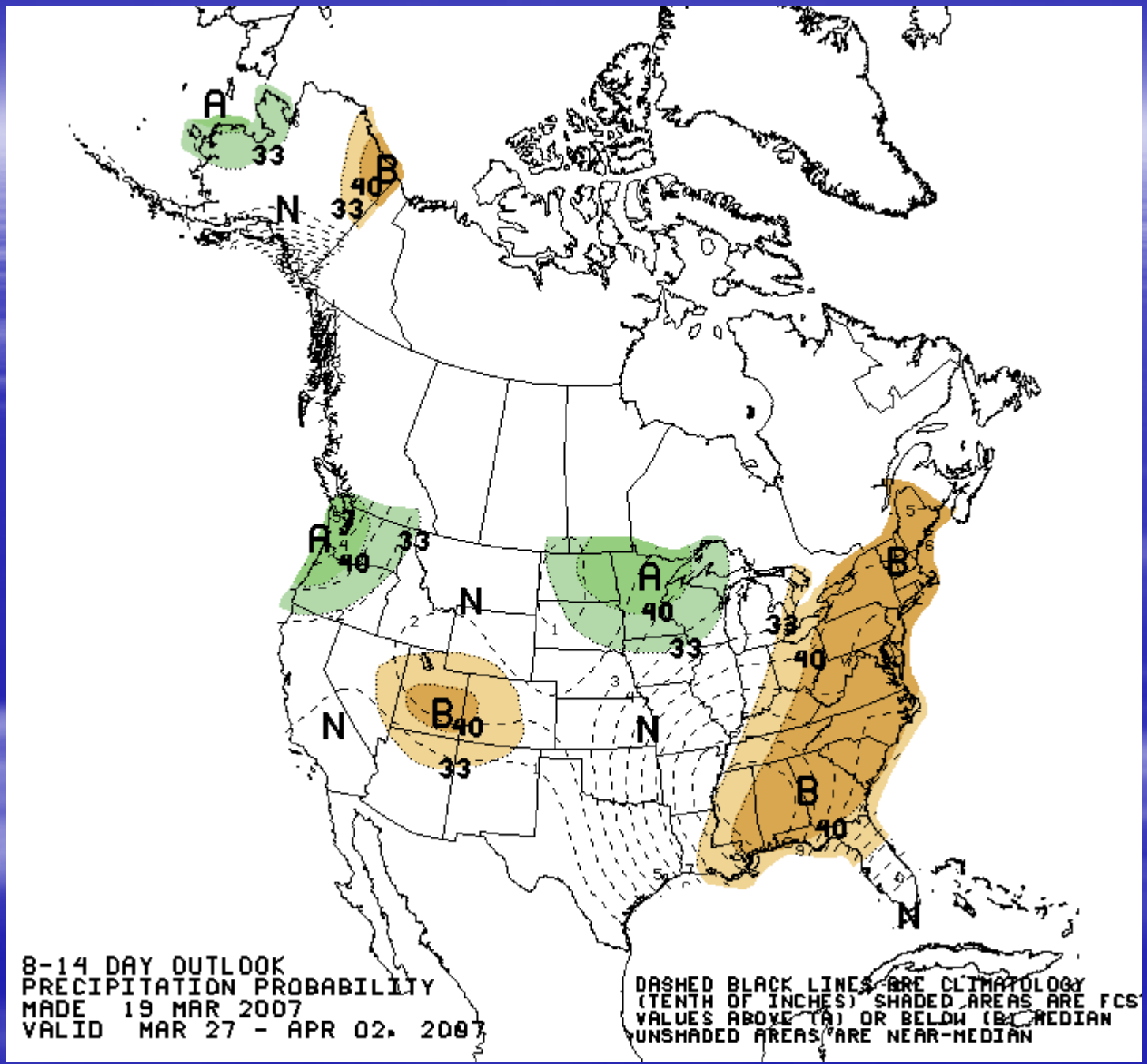
Forecasts……..

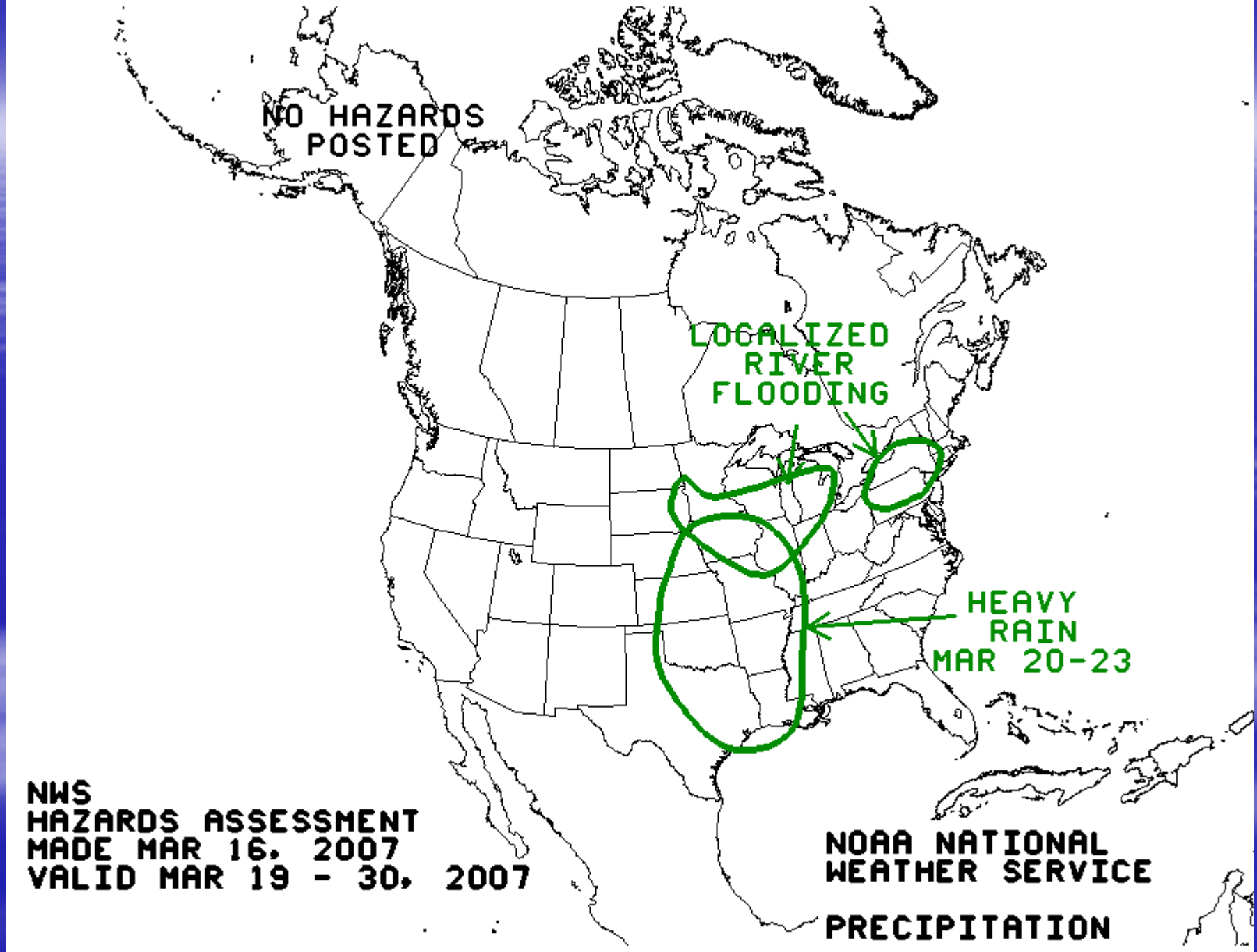
University of Nebraska Lincoln

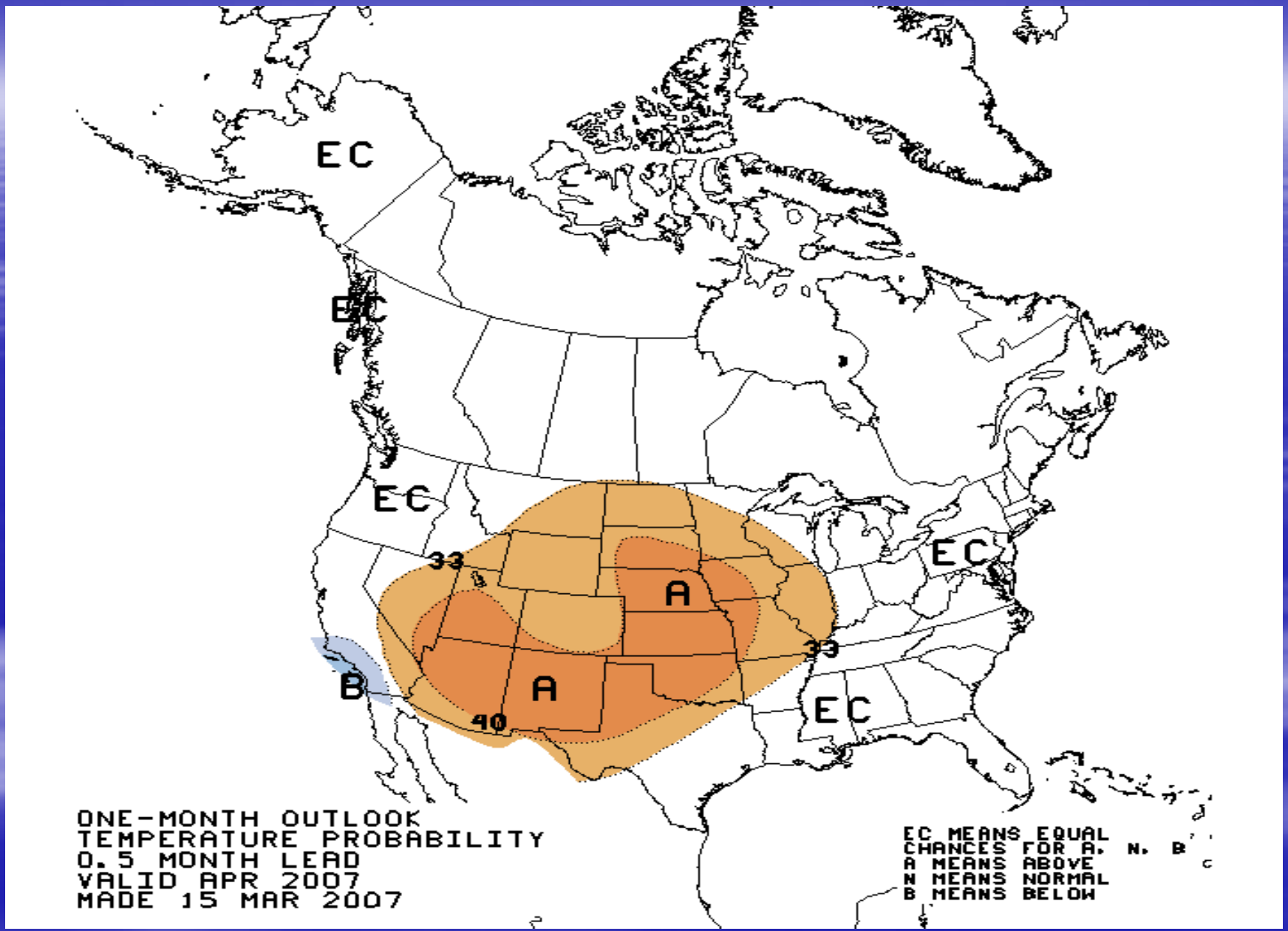
National Drought Mitigation Center



40
B
15
20
10
5
25
50
33
N
40
A
48
45
60
50
55
60
50
N
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 19 MAR 2007
VALID MAR 27 - APR 02, 2007
DASHED BLACK LINES ARE CLIMATOLOGY
(DEG F) SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
UNSHADED AREAS ARE NEAR-NORMAL


A
33
B
40
33
N
A
40
33
N
A
40
33
B
40
33
N
N
B
40
B
40
N
8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 19 MAR 2007
VALID MAR 27 - APR 02. 2007
DASHED BLACK LINES ARE CLIMATOLOGY
(TENTH OF INCHES) SHADED AREAS ARE FCS
VALUES ABOVE (A) OR BELOW (B) MEDIAN
UNSHADED AREAS ARE NEAR-MEDIAN


NO HAZARDS
POSTED
LOCALIZED
RIVER
FLOODING
HEAVY
RAIN
MAR 20-23
NWS
HAZARDS ASSESSMENT
MADE MAR 16, 2007
VALID MAR 19 - 30, 2007
NOAA NATIONAL
WEATHER SERVICE
PRECIPITATION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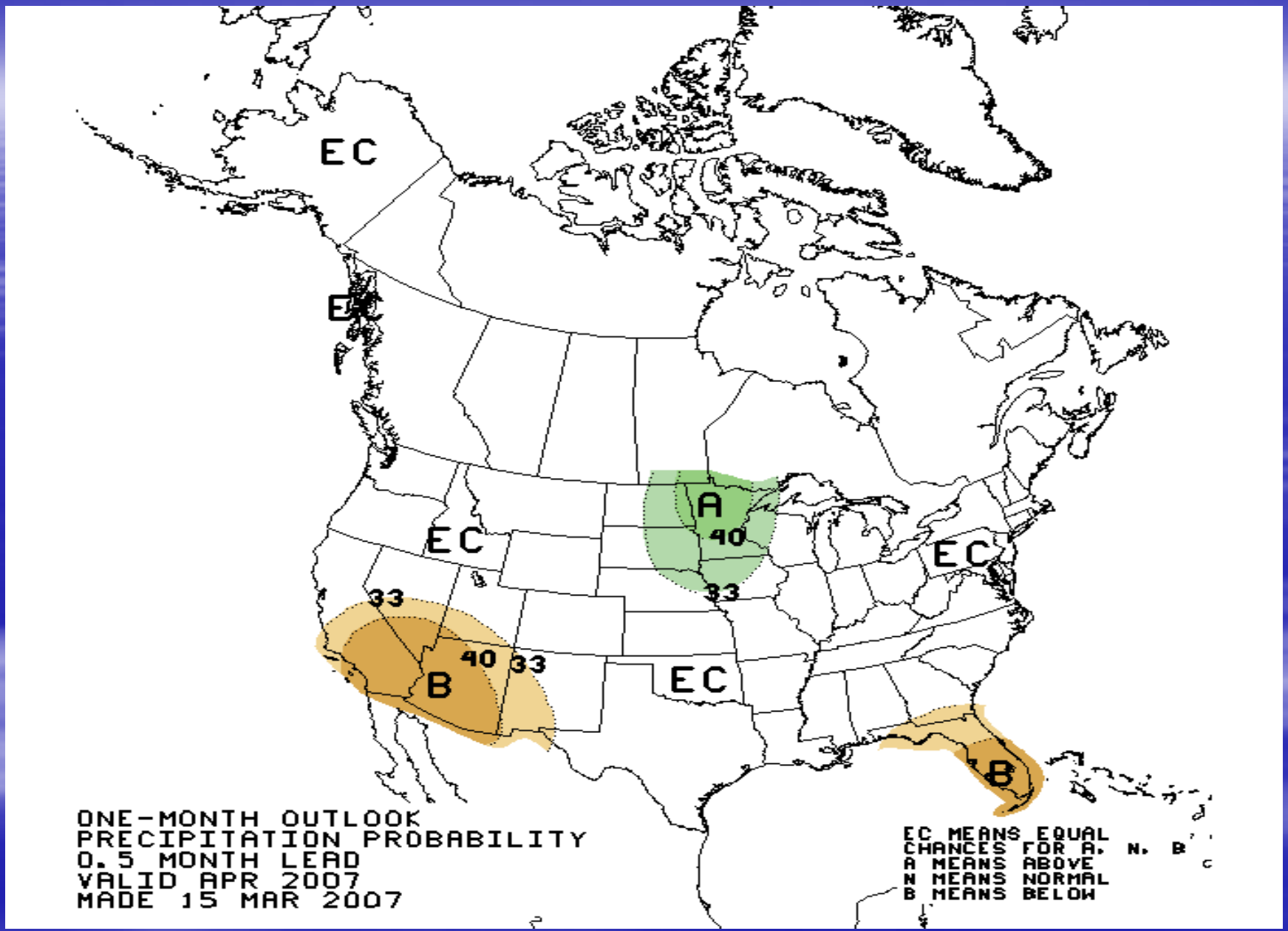
ONE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID APR 2007
MADE 15 MAR 2007
EC MEANS EQUAL
CHANCES FOR A. N. B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW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EC MEANS EQUAL
CHANCES FOR A. N. B
A MEANS ABOVE
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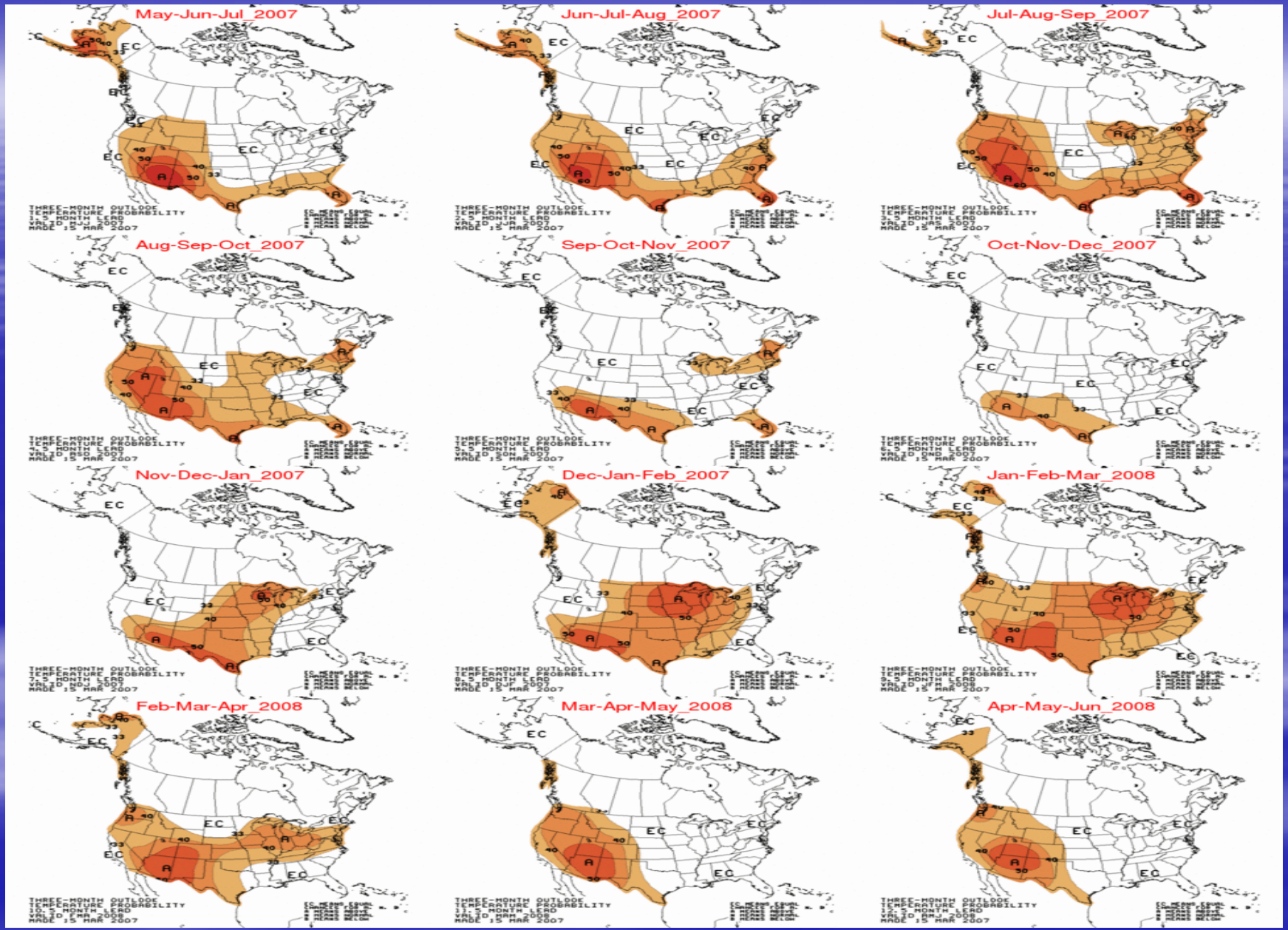
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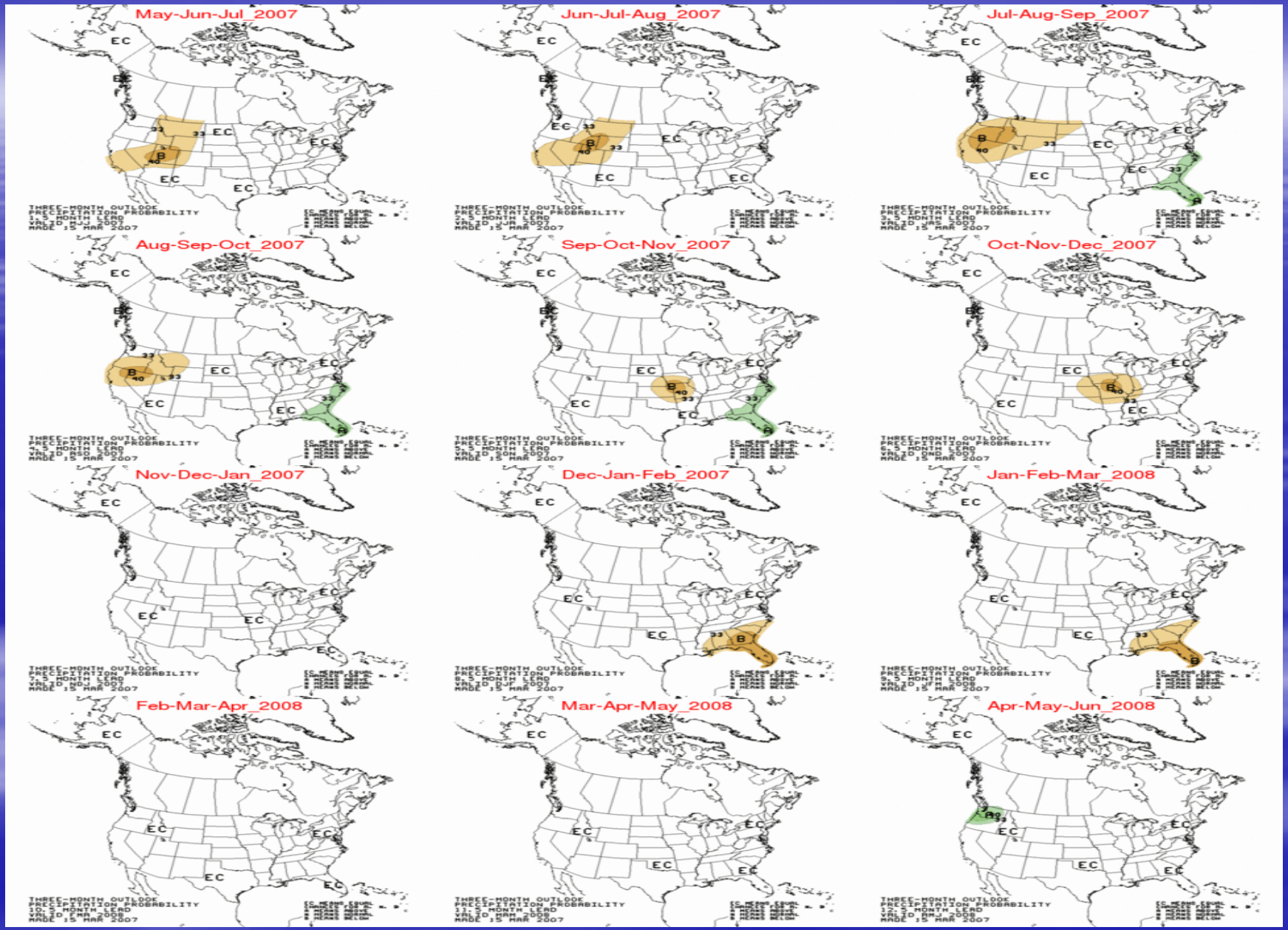
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